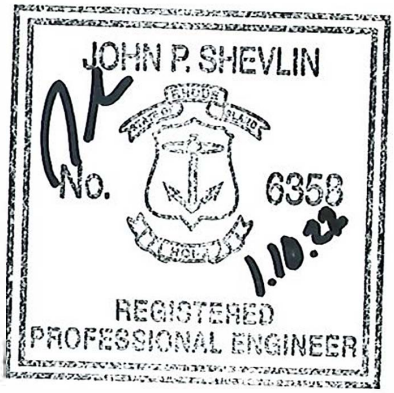
PARE PROJECT NO. 20179.01
REPORT

TRANSPORTATION IMPACT ASSESSMENT FOR THE PLANT BASED COMPASSIONATE CARE, INC. DEVELOPMENT- 71 OLD TOWER HILL ROAD AP 57-2, Lot 20 SOUTH KINGSTOWN, RHODE ISLAND

SUBMITTED TO:
PLANT BASED COMPASSIONATE CARE INC.
323 MANLEY STREET
WEST BRIDGEWATER, MA

SUBMITTED BY:
PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865



JANUARY 2022

PARE
CORPORATION

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INTRODUCTION

Pare Corporation (Pare) has conducted a Transportation Impact Assessment (TIA) to determine the anticipated impacts to the surrounding roadway network associated with the proposed construction of a medical marijuana dispensary, Plant Based Compassionate Care Inc., in South Kingstown, Rhode Island.

The study includes an assessment of the existing conditions of the study area including an inventory of roadway and intersection geometrics, public transportation services, collection of peak period traffic counts, and an analysis of the crash history of the study area.

Additionally, future traffic conditions with and without the proposed development were projected and analyzed. The future (2026) conditions analyzed were projected five years from the existing (2021) conditions. As the facility is anticipated to be open 10:00 a.m. to 7:00 p.m. Monday through Saturday and 11:00 a.m. to 4:00 p.m. on Sundays, Pare analyzed the weekday evening peak period and the weekend mid-day peak period. The Existing (2021), Future (2026) No-Build, and Future (2026) Build conditions were analyzed.

Finally, the study evaluates the results of the Future (2026) Build condition analysis to determine the impact of the proposed development on the adjacent transportation network and provides recommendations as necessary.

Project Description

The project site is to be accessed on the east side of Pershing Avenue by one shared main driveway for the proposed facility and the adjacent building at 71 Old Tower Hill Road. Two other driveways to 71 Old Tower Hill Road (a commercial development), one on Pershing Avenue and one on Old Tower Road can also provide access to the 91 Pershing Avenue property or the parking that will be available on the 71 Old Tower Hill Road property. The southern shared driveway on Pershing Avenue is located approximately 205 feet south of Old Tower Hill Road. Old Tower Hill is approximately 630 feet east of the Old Tower Hill Road/Kingston Road (Route 108) signalized intersection and 1,800 feet west of the Route 1 Interchange at Old Tower Hill Road.

The proposed site is to be located at 91 Pershing Avenue, on Assessors Plat 57-2, Assessors Lot 20. The adjacent building, 71 Old Tower Hill Road, is a commercial strip mall that consists of a variety of businesses including a sandwich shop, a nails salon and a convenience store. The surrounding area consists mainly of commercial uses and some residential uses.

The area of the proposed building for development is 2,226 square feet. Of that, 1,218 square feet will be used for the dispensary and the remaining approximate 1,000 square feet will be used for office use. On the site at 91 Pershing Avenue, there will be 19 parking spots designated in front of the building, The applicant will also have access to share with the landlord at 71 Old Tower Hill Road the other 32 spaces on that lot.

A locus map of the site is provided in Figure 1 while the project site plan is provided in Figure 2.

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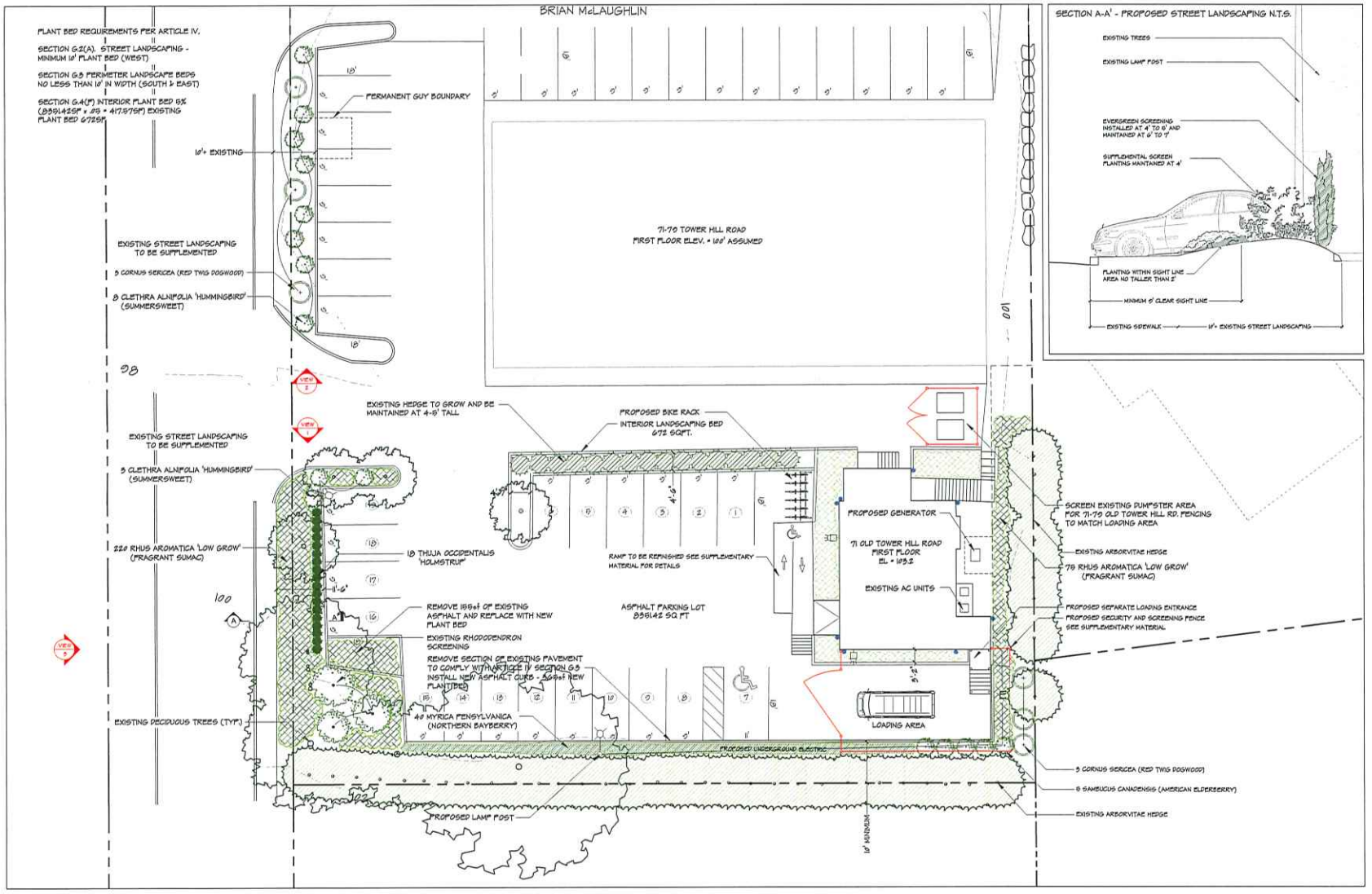
FIGURE 1

LOCUS MAP
PLANT BASED COMPASSIONATE CARE, INC

SOUTH KINGSTOWN, RHODE ISLAND

FIGURE 2

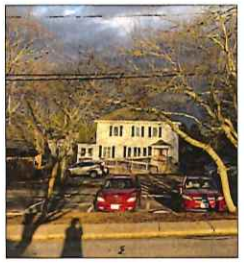


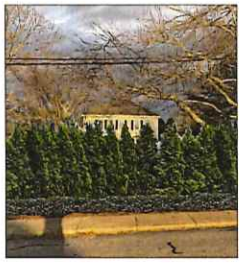

EXISTING VIEW 1


PROPOSED VIEW 1


EXISTING VIEW 2


PROPOSED VIEW 2


EXISTING VIEW 3


PROPOSED VIEW 3

PLANT BASED COMPASSIONATE CARE INC.

71 OLD TOWER HILL ROAD
AP 57-2, LOT 20
SOUTH KINGSTOWN, RI

PLANTING NOTES:

1. Verify locations of all below-grade utilities prior to any excavation.
2. Report any discrepancies between drawings and field conditions to landscape architect prior to planting.
3. Plant locations are to be staked by contractor and approved by landscape architect. Individual stakes are to be placed for trees and shrubs. Edges of planting beds are to be staked. Stakes are to be color coded & labeled. Stake locations are to be adjusted as needed and approved by landscape architect prior to planting.
4. Plants shall comply with the sizing and grading standards of "American Standards for Nursery Stock". Provide stock true to botanical name and legibly tagged. Plants shall be delivered free of defects, diseases, and all forms of insect infestation.
5. All plants are to be planted at same depth as place of growth.
6. All trees are to be mulched with well-rotted, finely shredded bark mulch, 2 inches deep. All perennial and groundcover beds are to be mulched with ½" of well-rotted, finely shredded bark mulch. A sample of mulch is to be approved by landscape architect.
7. All artificial burlap and twine (if used) to be completely removed at time of installation.
8. Wire baskets to be completely removed from rootballs.
9. Contractor shall have representative soil samples tested by a government agency and shall correct deficiencies and/or imbalances as per the testing agencies recommendations. Contractor shall furnish soil report to owner and landscape architect.
10. Topsoil for planting beds shall be conditioned as necessary and shall be fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, reasonably free of lumps, stones, plants, roots and other foreign matter.
11. Provide premixed planting mixture for use around rootballs and consisting of 3 parts planting topsoil and 1 part peat moss.
12. Plants labeled "specimen" are to be tagged at place of growth by landscape architect.

GENERAL NOTES:

1. Topographic information derived from information provided by Hilbern Land Surveying.
2. Pending approval

⚠1 01-04-22 UPDATE PROJECT ADDRESS, ADD PLAT AND LOT INFORMATION
⚠2 12-30-21 ISSUED FOR PLANNING BOARD REVIEW
⚠1 12-7-2020 ISSUED FOR CLIENT REVIEW AND PRICING

PROGRESS PRINT
NOT FOR CONSTRUCTION

TUPELO DESIGN STUDIO, LTD.
386 Dry Bridge Road North Kingstown, Rhode Island 02852
Telephone/Facsimile: (401) 294-9678

Project No.: TBD	Date: DECEMBER 5, 2020
Drawn by: RMC/VLE Checked by: CNW	Scale: 1" = 20'- 0"
Submission Type: S.K. PLANNING DEPARTMENT TECHNICAL REVIEW BOARD	
Title: PLANTING PLAN	
North:	Sheet No.: P1

EXISTING CONDITIONS

A field inventory of the existing conditions within the study area was conducted in February 2021 and December 2021. The study area is defined as the significant roadways and intersections in the vicinity of the proposed site that may be impacted by the traffic generated by the construction of the proposed development. The study area is described below and shown in Figure 1.

Roadways

Old Tower Hill Road: Old Tower Hill Road is a principal arterial and is owned and maintained by the Rhode Island Department of Transportation (RIDOT). In the vicinity of Pershing Avenue, Old Tower Hill Road runs in the east/west direction and has an approximate 51-foot paved width with 11-foot travel lanes in each direction, a 13-foot center two-way left turn lane, 5-foot bike lanes with 3-foot bike path buffers in each direction and granite curb and 5-foot concrete sidewalks on both sides of the roadway. Within the study area, Old Tower Hill Road's posted speed limit is 25 miles per hour. Old Tower Hill Road has recently been reconstructed by RIDOT.

***Pershing Avenue*:** Pershing Avenue is a local street. The roadway runs in a north/south direction and has an approximate unstriped curb-to-curb 23-foot pavement width with concrete curb and concrete sidewalks on both sides. There is a posted speed limit of 25 mph along Pershing Avenue. Trucks were restricted from travelling on Pershing Avenue. There were no signed parking restrictions observed along the roadway but it should be noted that no vehicles were parked on the roadway. In general, pavement conditions on Pershing Avenue are good. The roadway appears to have been crack-sealed within the last few years

Intersections

Old Tower Hill Road/Main Street/Kingstown Road (Route 108): The intersection of Old Tower Hill Road/Main Street/Kingstown Road forms a four-legged signalized intersection. Kingstown Road forms the north and south legs, Main Street forms the west leg and Old Tower Hill Road forms the east leg.

The north leg of Kingstown Road consists of two 12-foot travel lanes in the northbound direction and two 11-foot travel lanes, one dedicated for thru movements and the other being a shared thru/right turn lane, and a dedicated 12-foot left turn lane in the southbound direction.

The south leg of Kingstown Road consists of two 12-foot travel lanes in the southbound direction and a 12-foot dedicated left turn lane, a dedicated 12-foot thru lane and a 12-foot shared right turn/thru lane. Concrete curb and sidewalks are on both approaches.

The east leg of Old Tower Hill Road consists of two 11-foot lanes heading eastbound and an 11-foot left turn lane, an 11-foot thru lane and a 11-foot shared right turn /bike lane on the westbound approach. Curbing and concrete sidewalk are on both sides of the roadway.

The west leg of Main Street consists of a one 11-foot lane heading towards downtown Wakefield, and an 11-foot dedicated left turn lane, an 11-foot dedicated thru lane and an 11-foot shared thru/right turn lane. Curbing and concrete sidewalk are on both sides of the roadway.

Crosswalks exist at each leg of the intersection. The signal operates under three phases. Phase one serves the protected eastbound and westbound left-turn movements. Phase two serves the eastbound and westbound approaches. The third phase serves the northbound and southbound left turn movements and the fourth phase serves the northbound and southbound movements concurrently.

Old Tower Hill Road/Pershing Avenue: The intersection of Old Tower Hill Road/Pershing Avenue forms a three-legged unsignalized intersection. Old Tower Hill Road forms the east and west legs and Pershing Avenue forms the south leg. Descriptions of the cross-sections of Old Tower Hill Road and Pershing Avenue at the intersection are described above. There is a crosswalk across Pershing Avenue. Pershing Avenue is a stop-controlled movement, with a recently installed stop sign and stop bar.

Old Tower Hill Road/Wakefield Mall Signalized Intersection: The intersection of Old Tower Hill Road/Wakefield Mall Driveway forms a three-legged signalized intersection. Old Tower Hill Road runs in the east/west direction. The west leg has an 11-foot travel lane with a 5-foot bike lane with a 3-foot bike path buffer heading westbound and a 11-foot dedicated left turn lane an 11-foot thru lane with a 5-foot bike lane with a 3-foot bike path buffer heading eastbound.

Old Tower Hill Road east leg has an 11-foot thru travel lane, a 5-foot bike lane and an 11-foot right turn lane heading westbound and a 11-foot thru lane with a 5-foot bike lane heading eastbound, A median island separated the eastbound and westbound movements.

The mall entrance has an approximate 16-foot-wide entrance drive into the site and a 12-foot wide left turn lane and a 12-foot wide right turn lane exiting the site.

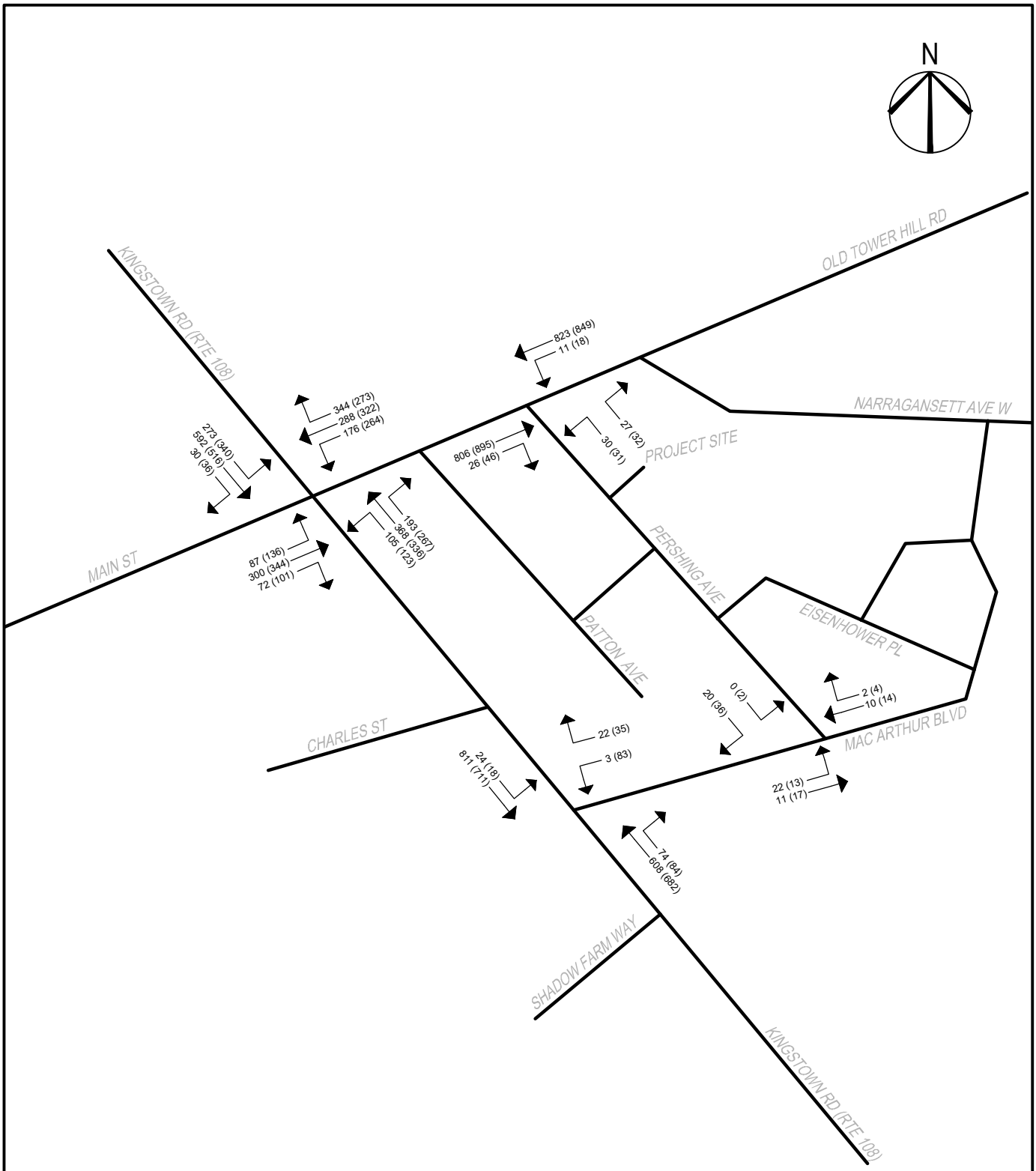
Existing Traffic Volumes

Existing traffic volume data was collected through turning movement counts (TMCs) at the study area intersections. TMCs were performed during the weekday afternoon (4:00 to 6:00 p.m.) peak period and Saturday midday peak period (11:00 a.m. to 1:00 p.m.). These time periods were selected as they represent the peak traffic time periods for the proposed development and typical peak periods for the adjacent roadway network.

The traffic counts used in this study were performed on Thursday, December 9, 2021 and Saturday December 18, 2021. The counts were completed while the Covid-19 Pandemic was still in effect. The counts were completed while the Covid-19 Pandemic was causing traffic volumes to be lessened due to such things as remote working or reduction in work force. Based on coordination with different State transportation agencies (RIDOT & MASSDOT) for recent studies, it has been agreed that traffic is at approximately 90% of pre-COVID conditions. The traffic for existing conditions have been inflated 10% to determine the 2021 existing volumes. The existing (2021) traffic volumes, which have been "normalized" by the application of the 10% Covid-19 factor, are shown on Figure 3. Complete traffic count data is included in Appendix A.

Public Transportation

The study area falls within the service area of the Rhode Island Public Transit Authority (RIPTA). RIPTA Bus Route 66 travels along Old Tower Hill Road with stops in close



PM Volumes (Saturday Volumes)

PROJECT NO. 20179.01 DATE: JANUARY 2022

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FIGURE 3

2021 EXISTING TRAFFIC VOLUMES
WEEKDAY 4:00-6:00 PM & SATURDAY 11:00-1:00 PM
ROADWAY PEAK HOURS
SOUTH KINGSTOWN, RHODE ISLAND

approximation (less than 400 feet) to Pershing Avenue. The RIPTA System Map is included in Appendix B.

Pedestrian & Bicycle Facilities

In general, pedestrian and bike facilities within the study area are very good. The recent reconstruction of Old Tower Hill Road was constructed to make it more pedestrian and bike friendly with new sidewalks and bike lanes incorporated into the design. No sidewalks are located within the immediate vicinity of the proposed site driveways on Pershing Avenue.

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2026 to cover a five-year horizon from the existing 2021 condition. Two future (2026) scenarios were analyzed including a Future (2026) No-Build scenario and Future (2026) Build scenario. Under the Future (2026) No-Build scenario, the traffic volumes include existing traffic volumes and new traffic volumes associated with expected background growth. The Future (2026) scenario includes all traffic volumes under the Future (2026) No-Build scenario and traffic associated with the proposed Project.

Future (2026) No-Build Traffic Volumes

The Future (2026) No-Build traffic volume scenario includes all existing traffic volumes and the traffic volumes associated with expected background growth. To provide a conservative analysis, the background growth in traffic volumes consist of a general background traffic growth rate consistent with recent U.S. Census Data and any additional traffic projected from additional developments near the study area. This method allows for the inclusion of a general growth rate to account for any unforeseen increases in traffic volumes and accounts for specific known developments expecting to impact the transportation system adjacent to the Project.

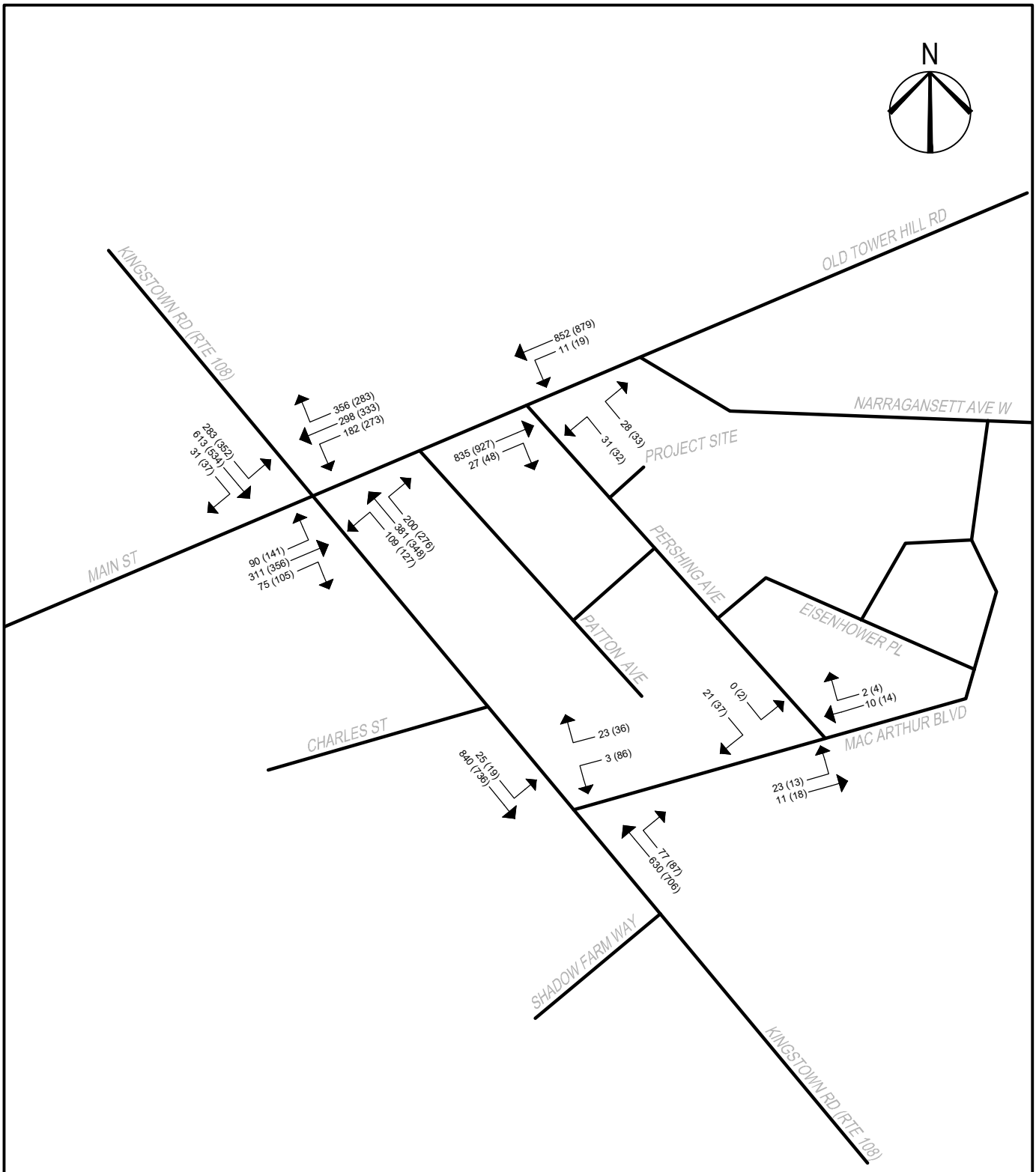
General Background Traffic Growth

To determine the appropriate growth rate to apply to the transportation network within the study area, recent traffic volume trends within the area were reviewed and correlated to expected background traffic growth. Using the U.S Census data the annual growth rate over the latest 10 years of data available indicate that there is a 0.41% increase in population. To analyze the future No-Build conditions, Pare applied a 0.50% annual increase in background traffic volumes. General background growth data calculations can be found in Appendix C.

In-Process Developments

Pare coordinated with the Town of South Kingstown in January 2021 to determine if there were any other proposed developments in the area that may have an impact on future travel patterns or increase traffic volumes in the area. The Town indicated that there several medical marijuana dispensaries in the area that were approved by the town. The proposed site is the only site approved by the State therefore no other known specific development proposals in the vicinity of the site are being proposed at this time.

Based on the evaluation of the appropriate general background traffic growth and the assessment of future in-process developments, the Future (2026) No-Build scenario traffic volumes were determined. The Future (2026) No-Build scenario includes the existing traffic volumes with the addition of a 0.50% annual growth rate. The Future (2026) No-Build traffic volumes are shown in Figure 4.



PM Volumes (Saturday Volumes)

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FIGURE 4

FUTURE (2026) NO-BUILD TRAFFIC VOLUMES
WEEKDAY 4:00-6:00 PM & SATURDAY 11:00-1:00 PM
ROADWAY PEAK HOURS
SOUTH KINGSTOWN, RHODE ISLAND

Project Trip Generation

The Future (2026) Build scenario represents the Future (2026) No-Build condition plus the traffic expected to be generated by the Project.

Trip generation for the proposed development was completed using information provided by the applicant for a similar store in Olney Maryland, a Town of 35,000 residents compared to the approximate 31,000 residents in South Kingstown. Since the ITE Trip Generation Manual does not contain trip information for a medical marijuana facility this document was not used for developing trip generations for this site. Also, counts from existing stores were not used as currently there are only three facilities open:

- Greenleaf Compassionate Care Center - Portsmouth, RI
- Thomas C. Slater Compassion - Providence, RI, and
- Summit Medical Compassion Center - Warwick, RI

With the recent selection of six proposed dispensaries by the Rhode Office of Cannabis Regulations where sites were selected in geographic zones across the state to service the statewide demand of the retail sale of medical marijuana to the approximate 20,000 registered state patients, the customer base will be spread out reducing the number of patients at the existing sites to the proposed nine (9) facilities. The additional five other locations in addition to the South Kingstown site includes:

- RMI Compassion Center- Woonsocket, RI (Zone 1)
- Pinnacle Compassion Center-Central Falls, RI (Zone 2)
- Green Wave Compassion Center- Foster, RI (Zone 3)
- Solar Therapeutics- Cranston, RI (Zone 4)
- Zone 6 has not been decided but will be in Barrington, Bristol, East Providence, Jamestown, Little Compton, Middletown, Newport, New Shoreham, Pawtucket, Portsmouth, Tiverton, or Warren

Counts were provided over many days for a comparable store in Maryland operated by Plant Based Compassion Care, Inc. The sheets provided arrival time of the customers and the time spent in the store. From this data, Pare was able to determine the peak hour volume counts for a weekday and weekend day, the average amount of transactions, total transactions per day, and the average time spent in the store by patients, which was calculated by when the patient checks in with staff to the point of when they complete their transaction. To remain conservative, for the proposed trip generations, Pare used the heaviest hour during a weekday (Monday-Friday) and weekend day (Saturday and Sunday). Complete trip generation calculations from this site are summarized in Appendix E.

Table 1: Trip Generation Summary-Maryland Site

Land Use		Weekday, PM Peak Hour	Saturday Midday, Peak Hour
Medical Marijuana Facility (based on existing site data)	Entering	21	19
	Exiting	21	19
	Total	42	38

In addition to these volumes, counts were obtained for the Green Leaf Site in Portsmouth, RI in May 2021. These counts are also summarized in Appendix E. Based on those counts the peak hour volumes from that site are shown in Table 2.

Table 2: Trip Generation-Greenleaf Compassion Center

Land Use		Weekday, PM Peak Hour
Greenleaf Compassion Center	Entering	71
	Exiting	72
	Total	143

It is anticipated that with the current three sites the volume of traffic will now be distributed throughout the nine statewide sites. It is assumed that the proposed Woonsocket and Central Falls sites will draw from the existing Providence site; the proposed Foster and Cranston sites will generally draw from the Warwick facility; the Zone 6 site will draw from either Portsmouth or Providence depending on what community is chosen. Therefore in order to determine the trips for our proposed site it was assumed that trips for the Portsmouth site would be 25% to the proposed Zone 6 site, 25% would remain at the Greenleaf site and 50% will access the Plant Based Compassion Center. The resulting trips are shown in Table 3.

Table 3: Trip Generation Summary-Proposed Site

Land Use		Proposed Peak Hour Trips
Proposed Trips from Existing Facilities	Entering	35
	Exiting	36
	Total	71

Project Trip Distribution

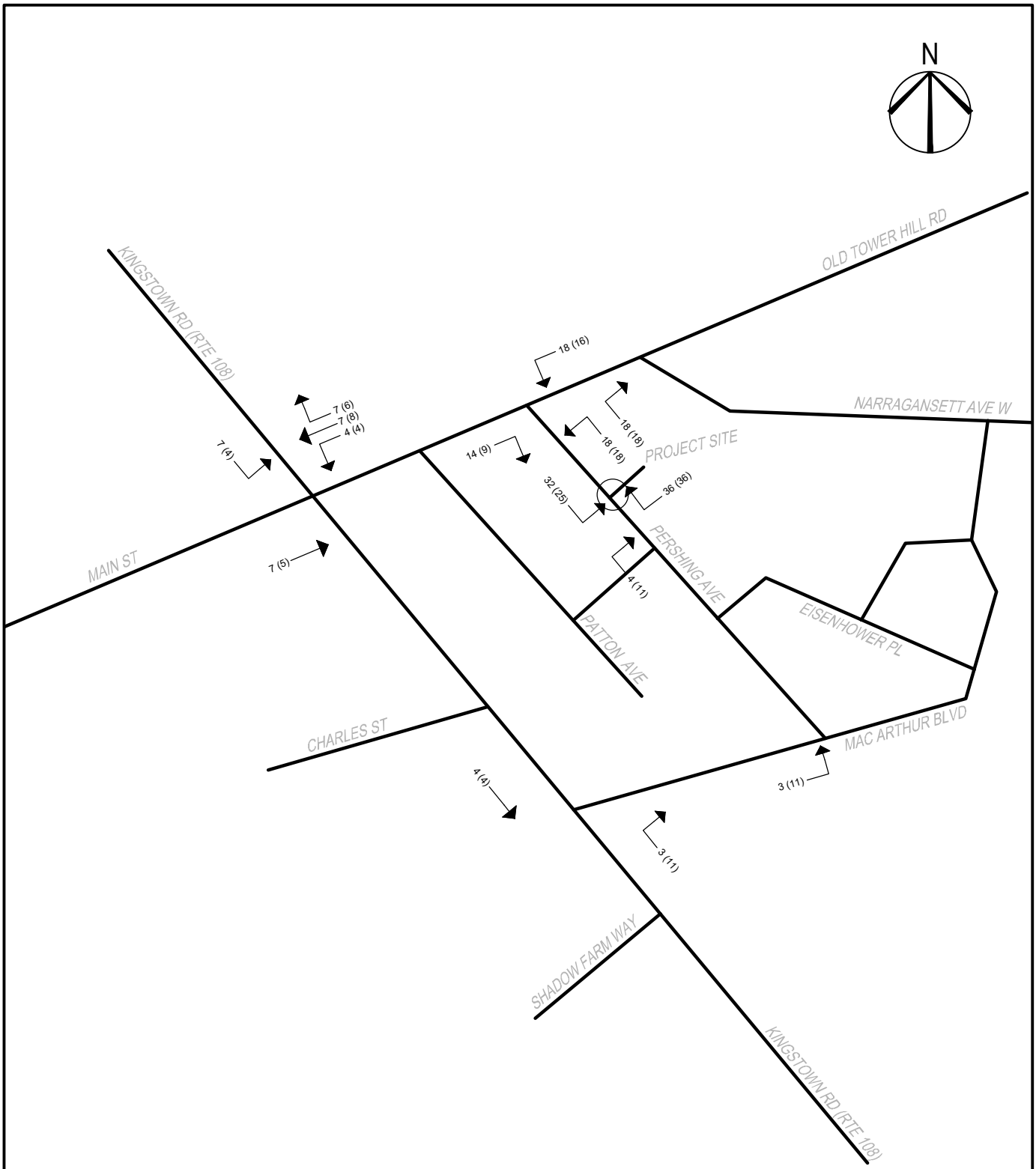
The directional distribution of trips entering and exiting the site was determined using the existing traffic volumes on the roadways. For trips entering into the site, trips are anticipated to arrive from Old Tower Hill Road and MacArthur Boulevard/Kingstown Road. It has been agreed by the applicant that trips exiting the site will only be allowed to leave the site driveway with a right turn only onto Pershing Avenue to Old Tower Hill Road. The site generated trips are shown in Figure 5.

Future (2026) Build Traffic Volumes

The Future (2026) Build traffic volumes consist of the Future (2026) No-Build traffic volumes with the addition of the Project generated traffic volumes. The Future (2026) Build weekday p.m. peak hour traffic volumes are shown in Figure 6. A summary comparing the difference between the Existing (2021) conditions, Future (2026) No-Build Conditions, and Future (2026) Build Conditions is located in Table 4.

Table 4: Analysis Scenario Summary

Analysis Scenario		
Existing (2021) Conditions	**Future (2026) No-Build Conditions**	**Future (2026) Build Conditions**
Existing traffic volumes – these volumes are the afternoon peak hour traffic volumes collected in the intersection turning movement counts with the appropriate Covid-19 adjustment factor applied.	Future traffic volumes **without** the proposed development – these volumes are the existing traffic volumes inflated with a 0.5% annual growth rate over 5 years. No other proposed developments in the area are being planned. This represents the anticipated future conditions if the proposed development **is not** constructed	Future traffic volumes **with** the proposed development – these volumes include the volumes established under the Future (2026) No-Build Conditions plus the trips generated by the proposed development. This represents the anticipated future conditions if the proposed development **is** constructed



PM Volumes (Saturday Volumes)

PROJECT NO. 20179.01 DATE: JANUARY 2022

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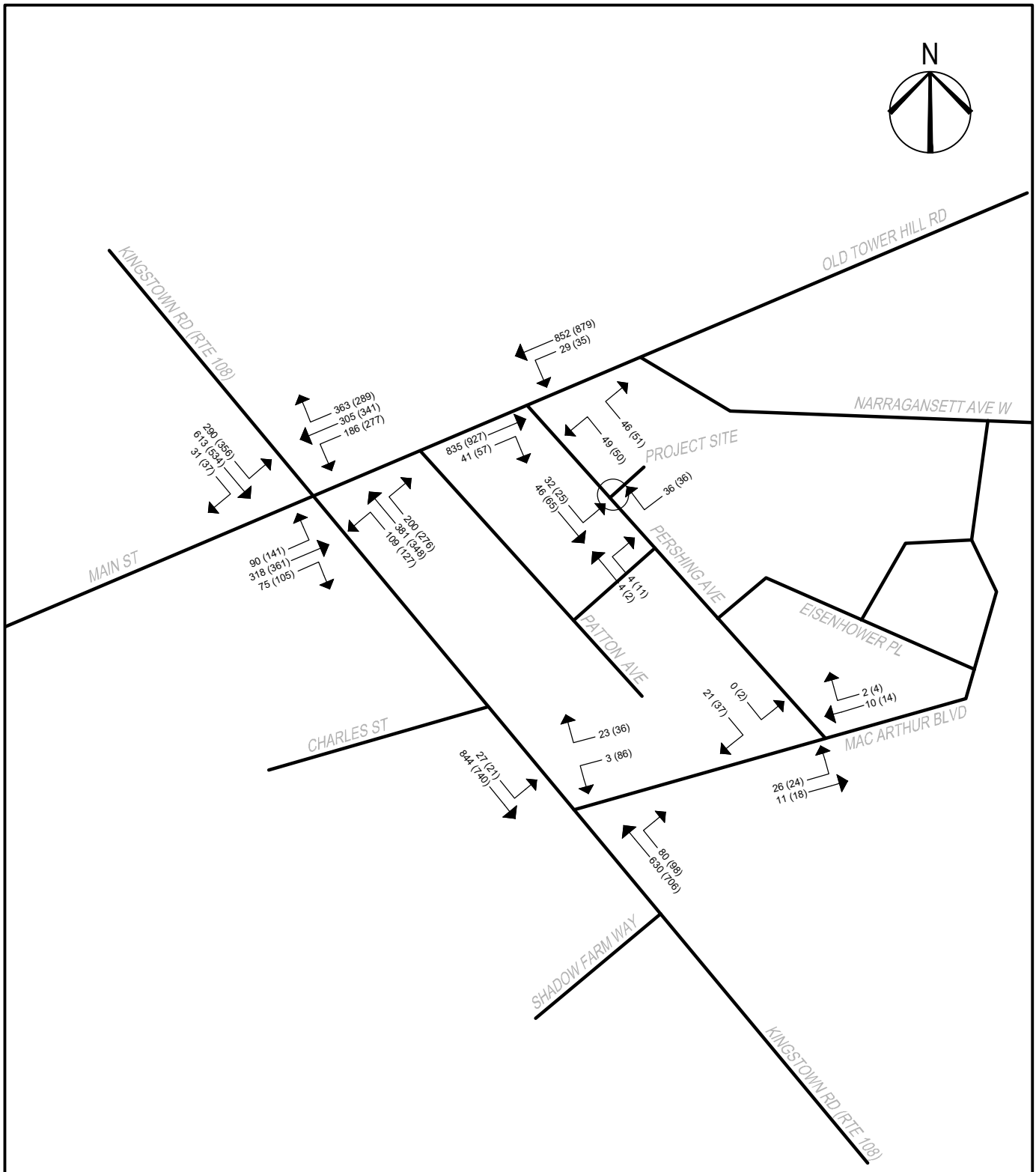
FIGURE 5

SITE GENERATED TRAFFIC VOLUMES
WEEKDAY 4:00-6:00 PM & SATURDAY 11:00-1:00 PM
ROADWAY PEAK HOURS
SOUTH KINGSTOWN, RHODE ISLAND



PM Volumes (Saturday Volumes)

PROJECT NO. 20179.01 DATE: JANUARY 2022

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FIGURE 6

FUTURE (2026) BUILD TRAFFIC VOLUMES
WEEKDAY 4:00-6:00 PM & SATURDAY 11:00-1:00 PM
ROADWAY PEAK HOURS
SOUTH KINGSTOWN, RHODE ISLAND

TRAFFIC CAPACITY ANALYSIS

Capacity analyses were completed for all the study intersections for Existing (2021), Future (2026) No-Build, and Future (2026) Build conditions. A capacity analysis characterizes intersections based on their level of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed, travel times, traffic interruptions, etc. Six LOS are defined for each type of facility, from A to F, with A representing the best operating conditions and F representing the worst operating conditions. The LOS criteria, as defined by the 2010 Highway Capacity Manual[1] (HCM) for signalized and unsignalized intersections are provided in Table 5. Tables 6 and 7 show the results of the capacity analysis. The complete capacity analysis results can be found in Appendix E.

Table 5: LOS Criteria for Signalized & Unsignalized Intersections

LOS	Signalized Intersections Delay Time (sec/veh)	Unsignalized Intersections Delay Time (sec/veh)
A	0-10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

Table 6: Intersection Capacity Analysis Results - Signalized Intersection

Intersection	Movement		2021 Existing			2026 No-Build			2026 Build		
			LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]
Old Tower Hill Road/Main Street/Kingstown Road (Route 108)	*Weekday PM Peak Hour*										
	NB	L	E	73.0	207	E	73.1	217	E	73.9	222
		T,R	D	48.0	526	D	49.4	543	D	50.2	552
	SB	L	E	55.8	546	E	57.9	565	E	61.2	598
		T,R	C	35.0	447	D	36.0	458	D	36.3	464
	EB	L	E	71.5	171	E	72.4	174	E	73.4	175
		T,R	E	57.3	282	E	57.3	287	E	58.1	298
	WB	L	E	66.9	358	E	66.7	373	E	66.4	387
		T	E	57.5	446	E	56.7	456	E	56.7	475
		R	C	21.5	240	C	21.5	252	C	21.7	257
	Intersection		D	47.8		D	48.4		D	49.2	
	Weekend Midday Peak Hour										
	NB	L,	E	71.7	238	E	62.9	170	E	65.5	171
		T,R	D	47.0	421	D	40.3	284	D	41.3	288
	SB	L	E	64.8	231	E	61.5	483	E	65.7	496
		T,R	D	38.0	377	C	31.5	260	C	32.5	265
	EB	L	E	70.2	275	E	62.3	186	E	64.7	187
		T,R	D	53.1	308	D	45.3	223	D	45.4	226
	WB	L	E	74.3	584	E	70.7	408	E	76.2	421
		T	E	55.2	493	D	48.3	351	D	48.9	361
		R	A	2.7	34	A	2.6	43	A	0.7	15
	Intersection		D	49.5		D	43.8		D	45.2	

1. Delay is measured in seconds/vehicle.
2. Queue Length shown represents the 95th percentile queue length in feet.

[1] *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Table 6 (Cont): Intersection Capacity Analysis Results - Signalized Intersection

Intersection	Movement		2021 Existing			2026 No-Build			2026 Build		
			LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]
MacArthur Boulevard/Main Street/Kingstown Road (Route 108)	*Weekday PM Peak Hour*										
	NB	T,R	C	28.0	589	C	26.2	714	C	26.7	717
	SB	L	B	14.4	37	A	8.0	25	A	8.9	30
		T	A	8.0	575	A	7.6	602	A	7.6	605
	WB	L,T,R	B	19.7	25	C	21.4	26	C	21.4	26
	Intersection		B	17.1		B	16.0		B	16.2	
	Weekend Midday Peak Hour										
	NB	T,R	C	24.0	615	C	26.4	772	C	26.2	697
	SB	L	A	7.4	16	B	10.3	22	B	10.6	23
		T	A	7.0	340	A	9.0	487	A	8.4	439
	WB	L,T,R	D	40.1	104	D	46.9	118	D	46.8	119
	Intersection		B	17.5		B	20.0		B	19.7	

3. Delay is measured in seconds/vehicle.
4. Queue Length shown represents the 95th percentile queue length in feet.

Table 7: Intersection Capacity Analysis Results - Unsignalized Intersections

Intersection	Movement		2021 Existing			2026 No-Build			2026 Build		
			LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]
Pershing Avenue/Old Tower Hill Road	*Weekday PM Peak Hour*										
	NB	L,,R	F	57.8	2.6	F	69.2	3.1	F	169.5	7.2
	EB	T,R	A	-	-	A	-	-	A	-	-
	WB	L,T	A	9.7	0.1	A	9.8	-	A	10.0	0.1
	Weekend Midday Peak Hour										
	NB	L,R	F	87.5	3.8	F	110.3	4.4	F	304.3	9.6
	EB	T,R	A	-	-	A	-	-	A	-	-
	WB	L,T	B	10.2	0.1	B	10.4	0.1	B	10.5	0.2
MacArthur Blvd/Pershing Avenue	*Weekday PM Peak Hour*										
	SB	L.R	A	8.5	0.1	A	8.5	0.1	A	8.6	0.1
	WB	T,R	A	-	-	A	-	-	A	-	-
	EB	L,T	A	7.3	0.1	A	7.3	0.1	A	7.3	0.1
	Weekend Midday Peak Hour										
	SB	L.R	A	8.6	0.1	A	8.6	0.1	A	8.6	0.1
	WB	T,R	A	-	-	A	-	-	A	-	-
	EB	L,T	A	7.3	0	A	7.3	0	A	7.3	0.1

Intersection	Movement		2021 Existing			2026 No-Build			2026 Build		
			LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]	LOS	Delay[1]	Queue Length[2]
Site Entrance/Pershing Avenue	*Weekday PM Peak Hour*										
	SB	L.T	-	-	-	-	-	-	A	7.3	0.1
	WB	R	-	-	-	-	-	-	A	8.5	0.1
	NB	T,R	-	-	-	-	-	-	A	-	-
	Weekend Midday Peak Hour										
	SB	L.T	-	-	-	-	-	-	A	7.3	0.1
	WB	R	-	-	-	-	-	-	A	8.5	0.1
	NB	T,R	-	-	-	-	-	-	A	-	-

1. Delay is measured in seconds/vehicle.
2. Queue Length shown represents the 95th percentile queue length in vehicles.

The following is a summary of the capacity analysis.

Old Tower Hill Road/Main Street/Kingstown Road (Route 108)

When comparing the Weekday PM Peak Hour Future No-Build (2026) Conditions compared to the Build (2026) Conditions there are no changes in the LOS for each approach to the

intersection as all of the LOS remain the same. The overall LOS for the intersection is LOS D for all three scenarios analyzed.

When comparing the Weekend Midday Peak Hour Future No-Build (2026) Conditions compared to the Build (2026) Conditions there are no changes in the LOS for each approach to the intersection as all of the LOS remain the same. The overall LOS for the intersection is LOS D for all three scenarios analyzed.

Pershing Avenue/Old Tower Hill Road
Under the Future (2026) Build condition, during both the weekday p.m. peak hour and the weekend midday peak hour, the northbound approach experiences LOS F for all three conditions (Existing, Future No-Build and Future Build Conditions). Although not much traffic is being added to this intersection in either scenario there is an increase in delay. The applicant has agreed to exit traffic from the site with a right-turn only movement to minimize traffic to the adjacent neighbor. If the site entrance was a full access, the delays would certainly be less at this intersection. Also, this proposed volumes at this intersection are conservative as all exiting site traffic was analyzed using the southern driveway. It would be anticipated that a good portion of the traffic will exit through the plaza driveway onto Tower Hill Road.

Pershing Avenue/MacArthur Boulevard
Under the Future (2026) Build condition, during both the weekday p.m. peak hour and the weekend midday peak hour, the approaches to this intersection all operate at LOS A.

MacArthur Boulevard/Kingstown Road Under the Future (2026) Build condition, during both the weekday p.m. peak hour and the weekend midday peak hour, there are no reductions in LOS for any approach. The intersection will continue to operate at LOS B.

Pershing Avenue/Proposed Site Entrance
Under the Future (2026) Build condition, during both the weekday p.m. peak hour and the weekend midday peak hour, the approaches to this intersection will all operate at LOS A for the proposed layout.

SAFETY ANALSYIS

Traffic Safety Analysis

As part of our safety analysis, we obtained crash data for the Pershing Avenue/Old Tower Hill Road intersection for a recent three year period from a recent Road Safety Audit performed by RIDOT. We have also requested updated data from the South Kingstown Police. As of this date, the updated crash reports have not been received. Upon receipt, a supplement report will be provided.

Table 8: 3-Year Crash Data Summary

Date	Day of the Week	Time	At Street	Direction	Location	Distance from Ref. Intersection (ft)	Lighting	Weather	Crash Type	Collision with	Severity	Emphasis Area
2/25/14	Tuesday	11:29 AM	Pershing Avenue	EB	Intersection	50	Daylight	Clear	Sideswipe - Same Direction	Vehicle-Vehicle	Injury	Intersection
7/16/15	Thursday	9:33 AM	Pershing Avenue	EB	Intersection	0	Daylight	Clear	Angle	Vehicle-Vehicle	Injury	Intersection
10/31/15	Saturday	9:10 AM	Pershing Avenue	EB	Intersection	0	Daylight	Clear	Collision with Roadside Object	Vehicle-Fixed Object	Property	Roadway Departure
1/16/16	Saturday	1:16 PM	Pershing Avenue	WB	Intersection	50	Daylight	Clear	Angle	Vehicle-Vehicle	Property	Intersection
3/30/16	Wednesday	4:10 PM	Pershing Avenue	WB	Intersection	0	Daylight	Clear	Angle	Vehicle-Vehicle	Property	Intersection
4/24/16	Sunday	8:32 PM	Pershing Avenue	WB	Intersection	50	Dark - Lighted	Clear	Head on	Vehicle-Vehicle	Injury	Intersection
4/25/16	Monday	9:38 AM	Pershing Avenue	WB	Intersection	100	Daylight	Clear	Angle	Vehicle-Vehicle	Property	Intersection
8/13/16	Saturday	10:29 AM	Pershing Avenue	EB	Intersection	20	Daylight	Cloudy	Angle	Vehicle-Vehicle	Injury	Intersection
9/15/16	Thursday	3:10 PM	Pershing Avenue	EB	Intersection	100	Daylight	Clear	Angle	Vehicle-Vehicle	Property	Intersection

Based on the data obtained, there was an average of three crashes per year in the vicinity of the Pershing Avenue intersection. Three of the accidents were at the intersection itself. The other six were in the vicinity of the intersection, most likely at one of the adjacent business driveways. Four of the crashes resulted in a reported injury while the remainder were property damage only. With the recent improvements being completed on Old Tower Hill Road and making this stretch of roadway more pedestrian/bicycle safe, we would anticipate that there should be a further reduction in crashes.

Sight Distance Analysis

Also, as part of our safety analysis, a sight distance analysis was performed at the location of the proposed site driveway and at the intersection of Pershing Avenue/Old Tower Hill Road. Sight distance measurements obtained included stopping sight distance (SSD) and Interse. SSD is the distance required for a vehicle traveling at the design speed of the roadway to come to a complete stop. It includes both the distance traversed during the driver's brake reaction time and the distance to decelerate the vehicle to a stop.

Based on our field review, the posted speed limit of Old Tower Hill Road is 25 mph. The sight distance analyses was based on a 30 mph design speed in this stretch of roadway based on observations and the fact that the signalized intersections on both sides of this intersection positively affected travel speeds in this area.

According to the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets, Sixth Edition 2011,* the minimum safe stopping sight distance for a 30-mph design speed is 200 feet. The minimum intersection sight distance for left-turning vehicles from a minor street is 335 feet for a design speed of 30-mph. A summary of the sight distances available for the proposed Pershing Avenue at Old Tower Hill Road intersection can be seen in Table 9.

Table 9: Pershing Avenue/Old Tower Hill Road Sight Distance Summary

		Required SSD (ft) 30 MPH	Measured SSD (ft)	Required ISD (ft) 30 MPH	Measured ISD (ft)
Pershing Avenue at Old Tower Hill Road	To the West	200	600	280	350
	To the East	200	1,000	280	1,000

SSD – Stopping Sight Distance
ISD – Intersection Sight Distance

Because of the straight tangent that Old Tower Hill Road is on, sight distance left and right out of Pershing Avenue is very good. Therefore, we are of the opinion that the sight distance is met at this intersection and there should be no safety issues.

As part of our study dated November 11, 2020, a sight distance analysis was performed at the location of the Pershing Avenue at Old Tower Hill Road intersection. As part of the discussion at the TRC meeting, the question was raised regarding the sight lines exiting the site onto Pershing Avenue, in particular in relation to the proposed planting plan that was provided. Since that meeting, Tupelo Design Studio, Ltd. has revised the plantings and landscape layout. Stopping sight distance (SSD) measurements were reviewed at the driveway. SSD is the distance required for a vehicle traveling at the design speed of the roadway to come to a complete stop. It includes both the distance traversed during the driver's brake reaction time and the distance to decelerate the vehicle to a stop.

Based on our field review, the posted speed limit of Pershing Avenue is 25 mph. The sight distance analyses was based on a conservative 25-mph design speed as the speed in this stretch of roadway based on our observations and the fact that the driveway is within approximately 200 feet from the intersection with Old Tower Hill Road indicates slower travel speeds than the 25 mph speed limit in the area of the driveway occur.

According to the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets, Sixth Edition 2011,* the minimum safe stopping sight distance for a 25-mph design speed is 155 feet. A summary of the sight distances available for the proposed Pershing Avenue/Site driveway intersection can be seen in Table 10.

Table 10: Pershing Avenue/Site Driveway Sight Distance Summary

		Required SSD (ft) 25 MPH	Measured SSD (ft)
Pershing Avenue at Site Driveway	To the South	155	280
	To the North	155	205 (to intersection)

SSD – Stopping Sight Distance
front of vehicle at curbline

In accordance with AASHTO, "if the available sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions." The proposed plantings being proposed in front of the site are to be planted setback from the roadway approximately 20 feet from the curbline allowing the sight lines for stopping sight distance to be exceeded.. If the proposed and existing plantings are maintained properly the stopping sight distance is met.

PARKING

The proposed site is anticipated to provide 19 parking spaces on-site with the use of 32 spaces on the abutting retail site that can be used for overflow and employee parking. Section 711 of the Zoning Ordinance requires 1 parking space for every 350 square feet of floor area. For this site the parking requirements are :

Table 11: Parking

Building	Gross Floor Area	Parking Required	Parking Provided
91 Pershing Avenue	2,226 sf	7	19
71 Old Tower Hill Road	7,000 sf	20	32
TOTAL	9,226 sf	27	51

Lunch time site visits (between noon and 1:00 p.m.) to the retail property at 71 Old Tower Hill Road were performed on Tuesday, December 14, Friday, December 17 and Saturday, December 18. The number of spaces being utilized during those visits were 17, 16 and 19. Based on our observations, parking was available for the Plant Base Compassion if necessary.

Based on data collection performed at the Plant Based Compassion site in Olney, Maryland and with the store operations that have been ,put in place for customer service, including incentivize patients to utilize the online pre-order platform, thereby reducing patients time onsite as they will only need to provide ID verification and payment for their pre-ordered medicine, the average amount of time a patient was in their store is less than 4 minutes. This time is counted from when someone checks into the store with their Medical Marijuana card and ID to the time they have paid for their product. Adding 6 minutes for getting in and out of parking, patients are anticipated to be on site for approximately 10 minutes. With this turnover and the 19 parking spaces being provided, we are of the opinion that parking capacity at the site will not be an issue. If there is a time when there is an issue, parking on the property to the north in the commercial plaza will be available.

If necessary, to assist with the traffic flow the applicant has coordinated with the Town of South Kingstown Police Department (SKPD). The following will be put in place if necessary.

- The SKPD will be available to assist during peak hours (3:00 p.m. – 7:00 p.m.)
- The SKPD will assist in directing traffic away from the residential streets and onto Tower Hill Road.
- Plant Based Compassion will work with the landlord to install a "NO LEFT TURN" sign on the private property in order to ensure traffic into the Pershing Avenue and MacArthur Boulevard is minimal.

CONCLUSIONS

After completing the analysis for the proposed Plant Based Compassion Facility on Pershing Avenue, comparing Existing (2021) conditions, Future (2026) No-Build conditions, and Future (2026) Build conditions, the following can be concluded regarding the site's impact:

- The new trips anticipated to be generated by the proposed development are expected to have minimal impact on the traffic operations and intersection capacity of the surrounding roadway network when comparing Future (2026) No-Build to Future (2026) Build conditions. The traffic analysis indicates that the proposed development will not have any significant impacts on the Level of Service on the surrounding roadways and intersections except for the left turn movement from Pershing Avenue onto Old Tower Hill Road. The applicant is proposing a right-turn only movement from the site onto Pershing Avenue to reduce impacts to the neighborhoods to the south. Patrons will also have the option of using the existing driveway to the plaza off of Old Tower Hill Road which would reduce the traffic at the Pershing Avenue/Old Tower Hill Road intersection.
- With the landscaping being planted away from the curbline, adequate sight lines will be maintained. Stopping sight distance requirements at the site's proposed driveways exceed AASHTO requirements allowing safe access and egress.
- If necessary, the applicant will engage the South Kingstown Police Department to assist with the traffic flow in and out of the site.
- With the operations procedures that Plant Base Compassion has in place, based on the projected visitors and the resulting turnover of patients, parking available on-site will be sufficient to handle the patients visiting the site. If necessary, additional parking is available within 71 Old Tower Hill Road.

APPENDIX A

Traffic Count Data

Transportation Data Corporation

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N/S: Kingstown Road (Route 108)
E/W: Old Tower Hill Road/Main Street
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499A
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds

	Kingstown Road (Route 108) From North				Old Tower Hill Road From East				Kingstown Road (Route 1A/108) From South				Main Street (Route 1A) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	14	106	69	0	64	65	46	0	25	74	18	0	16	70	18	0	585
04:15 PM	8	134	66	3	86	60	41	0	40	89	25	0	14	64	23	2	655
04:30 PM	5	150	55	0	78	65	42	0	48	87	19	0	10	69	16	0	644
04:45 PM	2	136	65	2	84	70	37	0	46	86	32	0	20	67	21	0	668
Total	29	526	255	5	312	260	166	0	159	336	94	0	60	270	78	2	2552
05:00 PM	12	118	62	0	64	64	38	0	41	71	19	0	21	70	19	0	599
05:15 PM	3	125	58	0	71	55	41	0	33	74	11	0	10	62	19	0	562
05:30 PM	1	103	60	1	68	53	33	0	26	62	17	0	20	62	19	1	526
05:45 PM	2	105	47	3	67	59	29	0	26	47	10	0	17	43	15	3	473
Total	18	451	227	4	270	231	141	0	126	254	57	0	68	237	72	4	2160
Grand Total	47	977	482	9	582	491	307	0	285	590	151	0	128	507	150	6	4712
Apprch %	3.1	64.5	31.8	0.6	42.2	35.6	22.2	0	27.8	57.5	14.7	0	16.2	64.1	19	0.8	
Total %	1	20.7	10.2	0.2	12.4	10.4	6.5	0	6	12.5	3.2	0	2.7	10.8	3.2	0.1	

	Kingstown Road (Route 108) From North					Old Tower Hill Road From East					Kingstown Road (Route 1A/108) From South					Main Street (Route 1A) From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	8	134	**66**	**3**	**211**	**86**	60	41	0	187	40	**89**	25	0	154	14	64	**23**	**2**	103	655
04:30 PM	5	**150**	55	0	210	78	65	**42**	0	185	**48**	87	19	0	154	10	69	16	0	95	644
04:45 PM	2	136	65	2	205	84	**70**	37	0	**191**	46	86	**32**	0	**164**	20	67	21	0	108	**668**
05:00 PM	**12**	118	62	0	192	64	64	38	0	166	41	71	19	0	131	**21**	**70**	19	0	**110**	599
Total Volume	27	538	248	5	818	312	259	158	0	729	175	333	95	0	603	65	270	79	2	416	2566
% App. Total	3.3	65.8	30.3	0.6		42.8	35.5	21.7	0		29	55.2	15.8	0		15.6	64.9	19	0.5		
PHF	.563	.897	.939	.417	.969	.907	.925	.940	.000	.954	.911	.935	.742	.000	.919	.774	.964	.859	.250	.945	.960

Transportation Data Corporation

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N/S: Kingstown Road (Route 108)
E/W: Old Tower Hill Road/Main Street
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499A
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Trucks & Buses

	Kingstown Road (Route 108) From North				Old Tower Hill Road From East				Kingstown Road (Route 1A/108) From South				Main Street (Route 1A) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2
04:30 PM	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	0	4
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	4	1	0	0	2	0	0	0	2	0	0	9
05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
05:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	3
05:45 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	1	3	0	0	0	0	0	1	2	0	0	7
Grand Total	0	0	0	0	0	5	4	0	0	2	0	0	1	4	0	0	16
Apprch %	0	0	0	0	0	55.6	44.4	0	0	100	0	0	20	80	0	0	
Total %	0	0	0	0	0	31.2	25	0	0	12.5	0	0	6.2	25	0	0	

	Kingstown Road (Route 108) From North					Old Tower Hill Road From East					Kingstown Road (Route 1A/108) From South					Main Street (Route 1A) From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	**2**	0	0	2	0	**1**	0	0	**1**	0	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	**1**	0	0	**1**	2
04:30 PM	0	0	0	0	0	0	2	**1**	0	**3**	0	0	0	0	0	0	1	0	0	1	**4**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	4	1	0	5	0	2	0	0	2	0	2	0	0	2	9
% App. Total	0	0	0	0		0	80	20	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.250	.000	.417	.000	.500	.000	.000	.500	.000	.500	.000	.000	.500	.563

Transportation Data Corporation

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N/S: Kingstown Road (Route 108)
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City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499A
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Bikes by Direction

	Kingstown Road (Route 108) From North				Old Tower Hill Road From East				Kingstown Road (Route 1A/108) From South				Main Street (Route 1A) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

	Kingstown Road (Route 108) From North					Old Tower Hill Road From East					Kingstown Road (Route 1A/108) From South					Main Street (Route 1A) From West					
Start Time	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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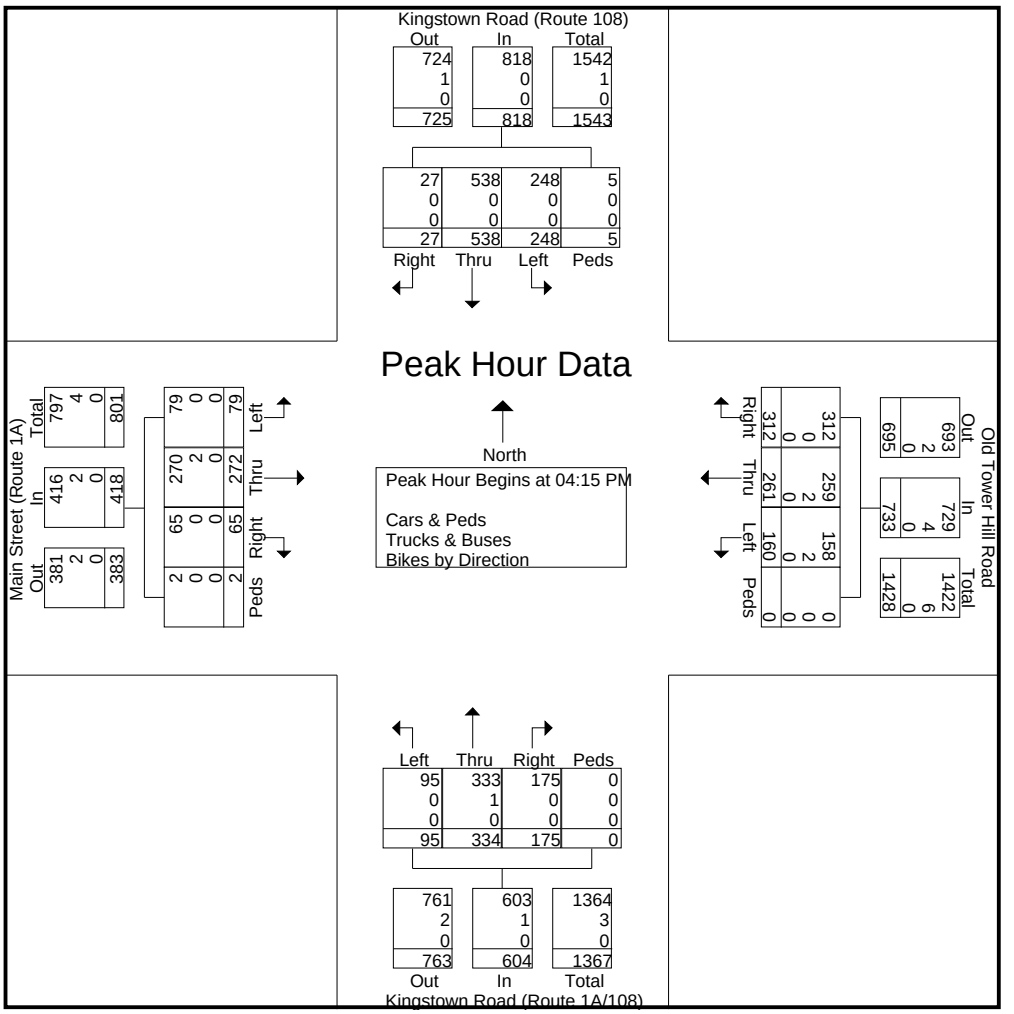
	Kingstown Road (Route 108) From North					Old Tower Hill Road From East					Kingstown Road (Route 1A/108) From South					Main Street (Route 1A) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	8	134	**66**	**3**	**211**	**86**	60	41	0	187	40	**90**	25	0	155	14	65	**23**	**2**	104	657
04:30 PM	5	**150**	55	0	210	78	67	**43**	0	188	**48**	87	19	0	154	10	**70**	16	0	96	648
04:45 PM	2	136	65	2	205	84	**70**	37	0	**191**	46	86	**32**	0	**164**	20	67	21	0	108	**668**
05:00 PM	**12**	118	62	0	192	64	64	39	0	167	41	71	19	0	131	**21**	70	19	0	**110**	600
Total Volume	27	538	248	5	818	312	261	160	0	733	175	334	95	0	604	65	272	79	2	418	2573
% App. Total	3.3	65.8	30.3	0.6		42.6	35.6	21.8	0		29	55.3	15.7	0		15.6	65.1	18.9	0.5		
PHF	.563	.897	.939	.417	.969	.907	.932	.930	.000	.959	.911	.928	.742	.000	.921	.774	.971	.859	.250	.950	.963
Cars & Peds	27	538	248	5	818	312	259	158	0	729	175	333	95	0	603	65	270	79	2	416	2566
% Cars & Peds	100	100	100	100	100	100	99.2	98.8	0	99.5	100	99.7	100	0	99.8	100	99.3	100	100	99.5	99.7
Trucks & Buses	0	0	0	0	0	0	2	2	0	4	0	1	0	0	1	0	2	0	0	2	7
% Trucks & Buses	0	0	0	0	0	0	0.8	1.3	0	0.5	0	0.3	0	0	0.2	0	0.7	0	0	0.5	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Transportation Data Corporation

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N/S: Kingstown Road (Route 108)
E/W: Old Tower Hill Road/Main Street
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499A
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	Kingstown Road (Route 108) From North				Old Tower Hill Road From East				Kingstown Road (Route 1A/108) From South				Main Street (Route 1A) From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
04:00 PM	14	106	69	0	64	67	46	0	25	75	18	0	16	70	18	0	588
04:15 PM	8	134	66	3	86	60	41	0	40	90	25	0	14	65	23	2	657
04:30 PM	5	150	55	0	78	67	43	0	48	87	19	0	10	70	16	0	648
04:45 PM	2	136	65	2	84	70	37	0	46	86	32	0	20	67	21	0	668
Total	29	526	255	5	312	264	167	0	159	338	94	0	60	272	78	2	2561
05:00 PM	12	118	62	0	64	64	39	0	41	71	19	0	21	70	19	0	600
05:15 PM	3	125	58	0	71	55	41	0	33	74	11	0	10	63	19	0	563
05:30 PM	1	103	60	1	68	53	34	0	26	62	17	0	21	63	19	1	529
05:45 PM	2	105	47	3	67	60	30	0	26	47	10	0	17	43	15	3	475
Total	18	451	227	4	270	232	144	0	126	254	57	0	69	239	72	4	2167
Grand Total	47	977	482	9	582	496	311	0	285	592	151	0	129	511	150	6	4728
Apprch %	3.1	64.5	31.8	0.6	41.9	35.7	22.4	0	27.7	57.6	14.7	0	16.2	64.2	18.8	0.8	
Total %	1	20.7	10.2	0.2	12.3	10.5	6.6	0	6	12.5	3.2	0	2.7	10.8	3.2	0.1	
Cars & Peds	47	977	482	9	582	491	307	0	285	590	151	0	128	507	150	6	4712
% Cars & Peds	100	100	100	100	100	99	98.7	0	100	99.7	100	0	99.2	99.2	100	100	99.7
Trucks & Buses																	
% Trucks & Buses	0	0	0	0	0	1	1.3	0	0	0.3	0	0	0.8	0.8	0	0	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Kingstown Road (Route 108) From North					Old Tower Hill Road From East					Kingstown Road (Route 1A/108) From South					Main Street (Route 1A) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	8	134	**66**	**3**	**211**	**86**	60	41	0	187	40	**90**	25	0	155	14	65	**23**	**2**	104	657
04:30 PM	5	**150**	55	0	210	78	67	**43**	0	188	**48**	87	19	0	154	10	**70**	16	0	96	648
04:45 PM	2	136	65	2	205	84	**70**	37	0	**191**	46	86	**32**	0	**164**	20	67	21	0	108	**668**
05:00 PM	**12**	118	62	0	192	64	64	39	0	167	41	71	19	0	131	**21**	70	19	0	**110**	600
Total Volume	27	538	248	5	818	312	261	160	0	733	175	334	95	0	604	65	272	79	2	418	2573
% App. Total	3.3	65.8	30.3	0.6		42.6	35.6	21.8	0		29	55.3	15.7	0		15.6	65.1	18.9	0.5		
PHF	.563	.897	.939	.417	.969	.907	.932	.930	.000	.959	.911	.928	.742	.000	.921	.774	.971	.859	.250	.950	.963
Cars & Peds	27	538	248	5	818	312	259	158	0	729	175	333	95	0	603	65	270	79	2	416	2566
% Cars & Peds	100	100	100	100	100	100	99.2	98.8	0	99.5	100	99.7	100	0	99.8	100	99.3	100	100	99.5	99.7
Trucks & Buses	0	0	0	0	0	0	2	2	0	4	0	1	0	0	1	0	2	0	0	2	7
% Trucks & Buses	0	0	0	0	0	0	0.8	1.3	0	0.5	0	0.3	0	0	0.2	0	0.7	0	0	0.5	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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S: Pershing Avenue
E/W: Old Tower Hill Road
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499B
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds

	Old Tower Hill Road From East			Pershing Avenue From South			Old Tower Hill Road From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	200	5	0	5	8	1	6	177	0	402
04:15 PM	169	2	0	5	5	0	6	188	0	375
04:30 PM	184	1	0	7	3	0	3	177	0	375
04:45 PM	190	2	0	7	9	0	8	185	0	401
Total	743	10	0	24	25	1	23	727	0	1553
05:00 PM	161	3	0	7	7	0	2	169	0	349
05:15 PM	159	4	0	3	9	0	3	153	0	331
05:30 PM	157	3	0	3	2	1	2	144	0	312
05:45 PM	139	2	0	2	6	1	3	118	0	271
Total	616	12	0	15	24	2	10	584	0	1263
Grand Total	1359	22	0	39	49	3	33	1311	0	2816
Apprch %	98.4	1.6	0	42.9	53.8	3.3	2.5	97.5	0	
Total %	48.3	0.8	0	1.4	1.7	0.1	1.2	46.6	0	

	Old Tower Hill Road From East				Pershing Avenue From South				Old Tower Hill Road From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	**200**	**5**	0	**205**	5	8	**1**	14	6	177	0	183	**402**
04:15 PM	169	2	0	171	5	5	0	10	6	**188**	0	**194**	375
04:30 PM	184	1	0	185	**7**	3	0	10	3	177	0	180	375
04:45 PM	190	2	0	192	7	**9**	0	**16**	**8**	185	0	193	401
Total Volume	743	10	0	753	24	25	1	50	23	727	0	750	1553
% App. Total	98.7	1.3	0		48	50	2		3.1	96.9	0		
PHF	.929	.500	.000	.918	.857	.694	.250	.781	.719	.967	.000	.966	.966

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S: Pershing Avenue
E/W: Old Tower Hill Road
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499B
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Trucks & Buses

	Old Tower Hill Road From East			Pershing Avenue From South			Old Tower Hill Road From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	1	0	0	0	0	0	0	0	0	1
04:15 PM	1	0	0	0	0	0	0	1	0	2
04:30 PM	3	0	0	0	0	0	0	2	0	5
04:45 PM	0	0	0	0	1	0	0	2	0	3
Total	5	0	0	0	1	0	0	5	0	11
05:00 PM	1	0	0	0	0	0	0	1	0	2
05:15 PM	2	0	0	0	0	0	0	1	0	3
05:30 PM	1	0	0	1	0	0	0	2	0	4
05:45 PM	1	0	0	0	0	0	0	1	0	2
Total	5	0	0	1	0	0	0	5	0	11
Grand Total	10	0	0	1	1	0	0	10	0	22
Apprch %	100	0	0	50	50	0	0	100	0	
Total %	45.5	0	0	4.5	4.5	0	0	45.5	0	

	Old Tower Hill Road From East				Pershing Avenue From South				Old Tower Hill Road From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**3**	0	0	**3**	0	0	0	0	0	**2**	0	**2**	**5**
04:45 PM	0	0	0	0	0	**1**	0	**1**	0	2	0	2	3
05:00 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
Total Volume	6	0	0	6	0	1	0	1	0	6	0	6	13
% App. Total	100	0	0		0	100	0		0	100	0		
PHF	.500	.000	.000	.500	.000	.250	.000	.250	.000	.750	.000	.750	.650

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Client: Pare/J. Shevlin

File Name : 05499B
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Bikes by Direction

	Old Tower Hill Road From East			Pershing Avenue From South			Old Tower Hill Road From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	1
05:00 PM	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	0	1	0	0	0	0	2
Apprch %	100	0	0	0	100	0	0	0	0	
Total %	50	0	0	0	50	0	0	0	0	

	Old Tower Hill Road From East				Pershing Avenue From South				Old Tower Hill Road From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1
Total Volume	1	0	0	1	0	1	0	1	0	0	0	0	2
% App. Total	100	0	0		0	100	0		0	0	0		
PHF	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.500

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E/W: Old Tower Hill Road
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499B
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	Old Tower Hill Road From East			Pershing Avenue From South			Old Tower Hill Road From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	201	5	0	5	8	1	6	177	0	403
04:15 PM	170	2	0	5	6	0	6	189	0	378
04:30 PM	187	1	0	7	3	0	3	179	0	380
04:45 PM	190	2	0	7	10	0	8	187	0	404
Total	748	10	0	24	27	1	23	732	0	1565
05:00 PM	163	3	0	7	7	0	2	170	0	352
05:15 PM	161	4	0	3	9	0	3	154	0	334
05:30 PM	158	3	0	4	2	1	2	146	0	316
05:45 PM	140	2	0	2	6	1	3	119	0	273
Total	622	12	0	16	24	2	10	589	0	1275
Grand Total	1370	22	0	40	51	3	33	1321	0	2840
Apprch %	98.4	1.6	0	42.6	54.3	3.2	2.4	97.6	0	
Total %	48.2	0.8	0	1.4	1.8	0.1	1.2	46.5	0	
Cars & Peds	1359	22	0	39	49	3	33	1311	0	2816
% Cars & Peds	99.2	100	0	97.5	96.1	100	100	99.2	0	99.2
Trucks & Buses	10	0	0	1	1	0	0	10	0	22
% Trucks & Buses	0.7	0	0	2.5	2	0	0	0.8	0	0.8
Bikes by Direction	1	0	0	0	1	0	0	0	0	2
% Bikes by Direction	0.1	0	0	0	2	0	0	0	0	0.1

	Old Tower Hill Road From East				Pershing Avenue From South				Old Tower Hill Road From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	**201**	**5**	0	**206**	5	8	**1**	14	6	177	0	183	403
04:15 PM	170	2	0	172	5	6	0	11	6	**189**	0	**195**	378
04:30 PM	187	1	0	188	**7**	3	0	10	3	179	0	182	380
04:45 PM	190	2	0	192	7	**10**	0	**17**	**8**	187	0	195	**404**
Total Volume	748	10	0	758	24	27	1	52	23	732	0	755	1565
% App. Total	98.7	1.3	0		46.2	51.9	1.9		3	97	0		
PHF	.930	.500	.000	.920	.857	.675	.250	.765	.719	.968	.000	.968	.968
Cars & Peds	743	10	0	753	24	25	1	50	23	727	0	750	1553
% Cars & Peds	99.3	100	0	99.3	100	92.6	100	96.2	100	99.3	0	99.3	99.2
Trucks & Buses	5	0	0	5	0	1	0	1	0	5	0	5	11
% Trucks & Buses	0.7	0	0	0.7	0	3.7	0	1.9	0	0.7	0	0.7	0.7
Bikes by Direction	0	0	0	0	0	1	0	1	0	0	0	0	1
% Bikes by Direction	0	0	0	0	0	3.7	0	1.9	0	0	0	0	0.1

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N: Pershing Avenue
E/W: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499C
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds

	Pershing Avenue From North			MacArthur Boulevard From East			MacArthur Boulevard From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	5	1	0	1	1	0	1	0	0	9
04:15 PM	4	0	0	0	3	0	2	3	0	12
04:30 PM	4	0	0	0	2	0	3	8	0	17
04:45 PM	4	0	0	0	1	0	2	4	0	11
Total	17	1	0	1	7	0	8	15	0	49
05:00 PM	5	0	0	0	4	0	2	3	0	14
05:15 PM	5	0	0	1	2	0	2	5	0	15
05:30 PM	4	0	0	1	0	0	0	3	0	8
05:45 PM	0	1	0	1	1	0	1	1	0	5
Total	14	1	0	3	7	0	5	12	0	42
Grand Total	31	2	0	4	14	0	13	27	0	91
Apprch %	93.9	6.1	0	22.2	77.8	0	32.5	67.5	0	
Total %	34.1	2.2	0	4.4	15.4	0	14.3	29.7	0	

	Pershing Avenue From North				MacArthur Boulevard From East				MacArthur Boulevard From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	4	0	0	4	0	2	0	2	**3**	**8**	0	**11**	**17**
04:45 PM	4	0	0	4	0	1	0	1	2	4	0	6	11
05:00 PM	**5**	0	0	**5**	0	**4**	0	**4**	2	3	0	5	14
05:15 PM	5	0	0	5	**1**	2	0	3	2	5	0	7	15
Total Volume	18	0	0	18	1	9	0	10	9	20	0	29	57
% App. Total	100	0	0		10	90	0		31	69	0		
PHF	.900	.000	.000	.900	.250	.563	.000	.625	.750	.625	.000	.659	.838

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N: Pershing Avenue
E/W: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499C
Site Code : 05499
Start Date : 12/9/2021

Groups Printed- Trucks & Buses

	Pershing Avenue From North			MacArthur Boulevard From East			MacArthur Boulevard From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1
Grand Total	0	0	0	0	0	0	1	0	0	1
Apprch %	0	0	0	0	0	0	100	0	0	
Total %	0	0	0	0	0	0	100	0	0	

	Pershing Avenue From North				MacArthur Boulevard From East				MacArthur Boulevard From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Transportation Data Corporation

Mario Perone, mperone1@verizon.net
tel (781) 587-0086 cell (781) 439-4999

N: Pershing Avenue
E/W: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499C
Site Code : 05499
Start Date : 12/9/2021

Groups Printed- Bikes by Direction

	Pershing Avenue From North			MacArthur Boulevard From East			MacArthur Boulevard From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	1	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	0	0	1	0	0	2
Apprch %	0	0	0	100	0	0	100	0	0	
Total %	0	0	0	50	0	0	50	0	0	

	Pershing Avenue From North				MacArthur Boulevard From East				MacArthur Boulevard From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	0	1	1	0	0	1	2
% App. Total	0	0	0		100	0	0		100	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.500

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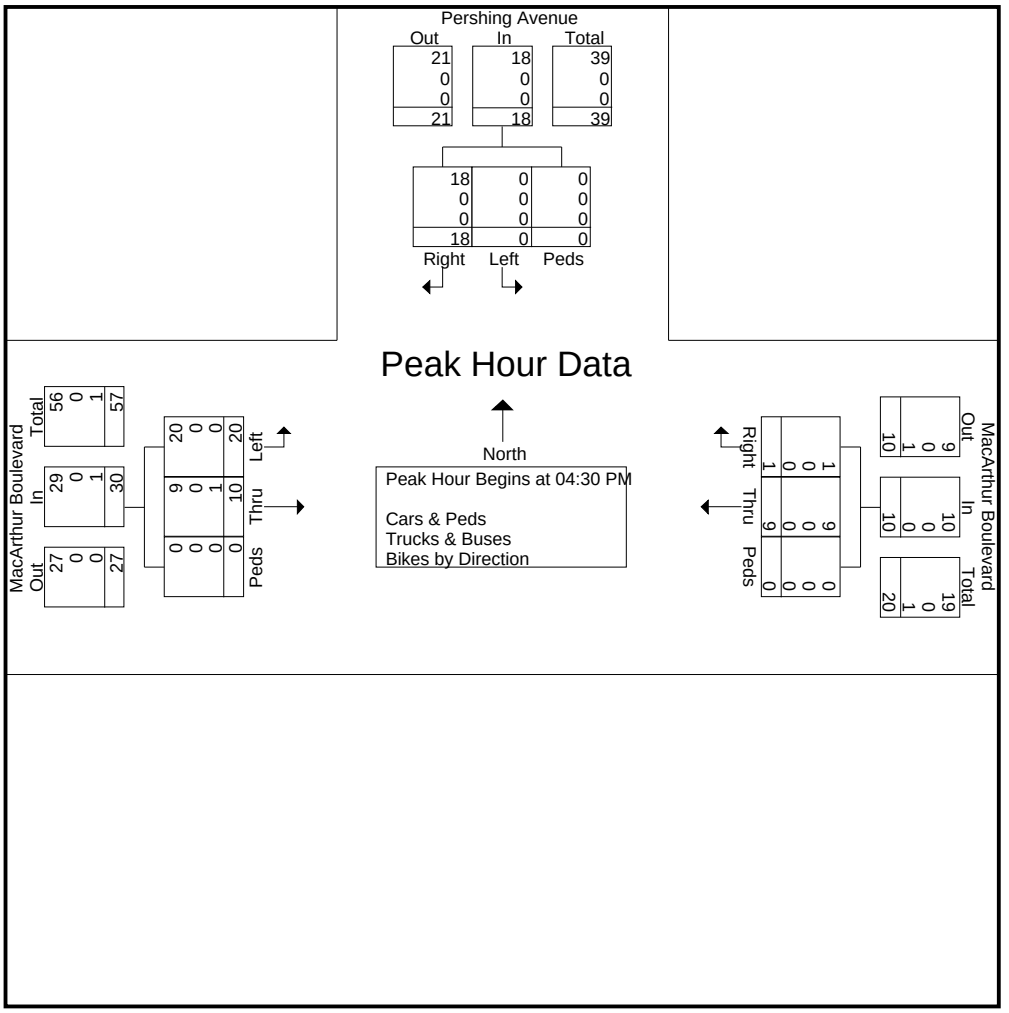
File Name : 05499C
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

	Pershing Avenue From North				MacArthur Boulevard From East				MacArthur Boulevard From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	4	0	0	4	0	2	0	2	**4**	**8**	0	**12**	**18**
04:45 PM	4	0	0	4	0	1	0	1	2	4	0	6	11
05:00 PM	**5**	0	0	**5**	0	**4**	0	**4**	2	3	0	5	14
05:15 PM	5	0	0	5	**1**	2	0	3	2	5	0	7	15
Total Volume	18	0	0	18	1	9	0	10	10	20	0	30	58
% App. Total	100	0	0		10	90	0		33.3	66.7	0		
PHF	.900	.000	.000	.900	.250	.563	.000	.625	.625	.625	.000	.625	.806
Cars & Peds	18	0	0	18	1	9	0	10	9	20	0	29	57
% Cars & Peds	100	0	0	100	100	100	0	100	90.0	100	0	96.7	98.3
Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes by Direction	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bikes by Direction	0	0	0	0	0	0	0	0	10.0	0	0	3.3	1.7



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N: Pershing Avenue
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Client: Pare/J. Shevlin

File Name : 05499C
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	Pershing Avenue From North			MacArthur Boulevard From East			MacArthur Boulevard From West			
Start Time	Right	Left	Peds	Right	Thru	Peds	Thru	Left	Peds	Int. Total
04:00 PM	5	1	0	1	1	0	1	0	0	9
04:15 PM	4	0	0	1	3	0	2	3	0	13
04:30 PM	4	0	0	0	2	0	4	8	0	18
04:45 PM	4	0	0	0	1	0	2	4	0	11
Total	17	1	0	2	7	0	9	15	0	51
05:00 PM	5	0	0	0	4	0	2	3	0	14
05:15 PM	5	0	0	1	2	0	2	5	0	15
05:30 PM	4	0	0	1	0	0	1	3	0	9
05:45 PM	0	1	0	1	1	0	1	1	0	5
Total	14	1	0	3	7	0	6	12	0	43
Grand Total	31	2	0	5	14	0	15	27	0	94
Apprch %	93.9	6.1	0	26.3	73.7	0	35.7	64.3	0	
Total %	33	2.1	0	5.3	14.9	0	16	28.7	0	
Cars & Peds	31	2	0	4	14	0	13	27	0	91
% Cars & Peds	100	100	0	80	100	0	86.7	100	0	96.8
Trucks & Buses	0	0	0	0	0	0	1	0	0	1
% Trucks & Buses	0	0	0	0	0	0	6.7	0	0	1.1
Bikes by Direction	0	0	0	1	0	0	1	0	0	2
% Bikes by Direction	0	0	0	20	0	0	6.7	0	0	2.1

	Pershing Avenue From North				MacArthur Boulevard From East				MacArthur Boulevard From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	4	0	0	4	0	2	0	2	**4**	**8**	0	**12**	**18**
04:45 PM	4	0	0	4	0	1	0	1	2	4	0	6	11
05:00 PM	**5**	0	0	**5**	0	**4**	0	**4**	2	3	0	5	14
05:15 PM	5	0	0	5	**1**	2	0	3	2	5	0	7	15
Total Volume	18	0	0	18	1	9	0	10	10	20	0	30	58
% App. Total	100	0	0		10	90	0		33.3	66.7	0		
PHF	.900	.000	.000	.900	.250	.563	.000	.625	.625	.625	.000	.625	.806
Cars & Peds	18	0	0	18	1	9	0	10	9	20	0	29	57
% Cars & Peds	100	0	0	100	100	100	0	100	90.0	100	0	96.7	98.3
Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes by Direction	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bikes by Direction	0	0	0	0	0	0	0	0	10.0	0	0	3.3	1.7

Transportation Data Corporation

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N/S: Kingstown Road (Route 1A/108)
E: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499D
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds

	Kingstown Road (Route 1A/108) From North			MacArthur Boulevard From East			Kingstown Road (Route 1A/108) From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	162	6	0	6	12	0	16	126	0	328
04:15 PM	204	4	0	8	13	1	16	141	1	388
04:30 PM	180	6	0	3	13	1	24	141	0	368
04:45 PM	190	5	0	3	11	0	11	141	0	361
Total	736	21	0	20	49	2	67	549	1	1445
05:00 PM	190	0	0	4	11	0	7	118	0	330
05:15 PM	161	6	0	3	8	0	6	91	3	278
05:30 PM	155	2	0	2	7	0	7	94	3	270
05:45 PM	150	6	0	4	2	0	1	72	0	235
Total	656	14	0	13	28	0	21	375	6	1113
Grand Total	1392	35	0	33	77	2	88	924	7	2558
Apprch %	97.5	2.5	0	29.5	68.8	1.8	8.6	90.7	0.7	
Total %	54.4	1.4	0	1.3	3	0.1	3.4	36.1	0.3	

	Kingstown Road (Route 1A/108) From North				MacArthur Boulevard From East				Kingstown Road (Route 1A/108) From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:15 PM													
04:15 PM	**204**	4	0	**208**	**8**	**13**	**1**	**22**	16	**141**	**1**	158	**388**
04:30 PM	180	**6**	0	186	3	13	1	17	**24**	141	0	**165**	368
04:45 PM	190	5	0	195	3	11	0	14	11	141	0	152	361
05:00 PM	190	0	0	190	4	11	0	15	7	118	0	125	330
Total Volume	764	15	0	779	18	48	2	68	58	541	1	600	1447
% App. Total	98.1	1.9	0		26.5	70.6	2.9		9.7	90.2	0.2		
PHF	.936	.625	.000	.936	.563	.923	.500	.773	.604	.959	.250	.909	.932

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N/S: Kingstown Road (Route 1A/108)
E: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499D
Site Code : 05499
Start Date : 12/9/2021

Groups Printed- Trucks & Buses

	Kingstown Road (Route 1A/108) From North			MacArthur Boulevard From East			Kingstown Road (Route 1A/108) From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	3	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	3	0	4
05:00 PM	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	1	0	0	0	0	0	0	0	1
05:30 PM	2	1	0	0	0	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	3	2	0	0	0	0	0	0	0	5
Grand Total	4	2	0	0	0	0	0	3	0	9
Apprch %	66.7	33.3	0	0	0	0	0	100	0	
Total %	44.4	22.2	0	0	0	0	0	33.3	0	

	Kingstown Road (Route 1A/108) From North				MacArthur Boulevard From East				Kingstown Road (Route 1A/108) From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	**1**	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	**2**	1	0	**3**	0	0	0	0	0	0	0	0	**3**
Total Volume	3	2	0	5	0	0	0	0	0	0	0	0	5
% App. Total	60	40	0		0	0	0		0	0	0		
PHF	.375	.500	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.417

Transportation Data Corporation
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N/S: Kingstown Road (Route 1A/108)
E: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499D
Site Code : 05499
Start Date : 12/9/2021

Groups Printed- Bikes by Direction

	Kingstown Road (Route 1A/108) From North			MacArthur Boulevard From East			Kingstown Road (Route 1A/108) From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	
Total %										

	Kingstown Road (Route 1A/108) From North				MacArthur Boulevard From East				Kingstown Road (Route 1A/108) From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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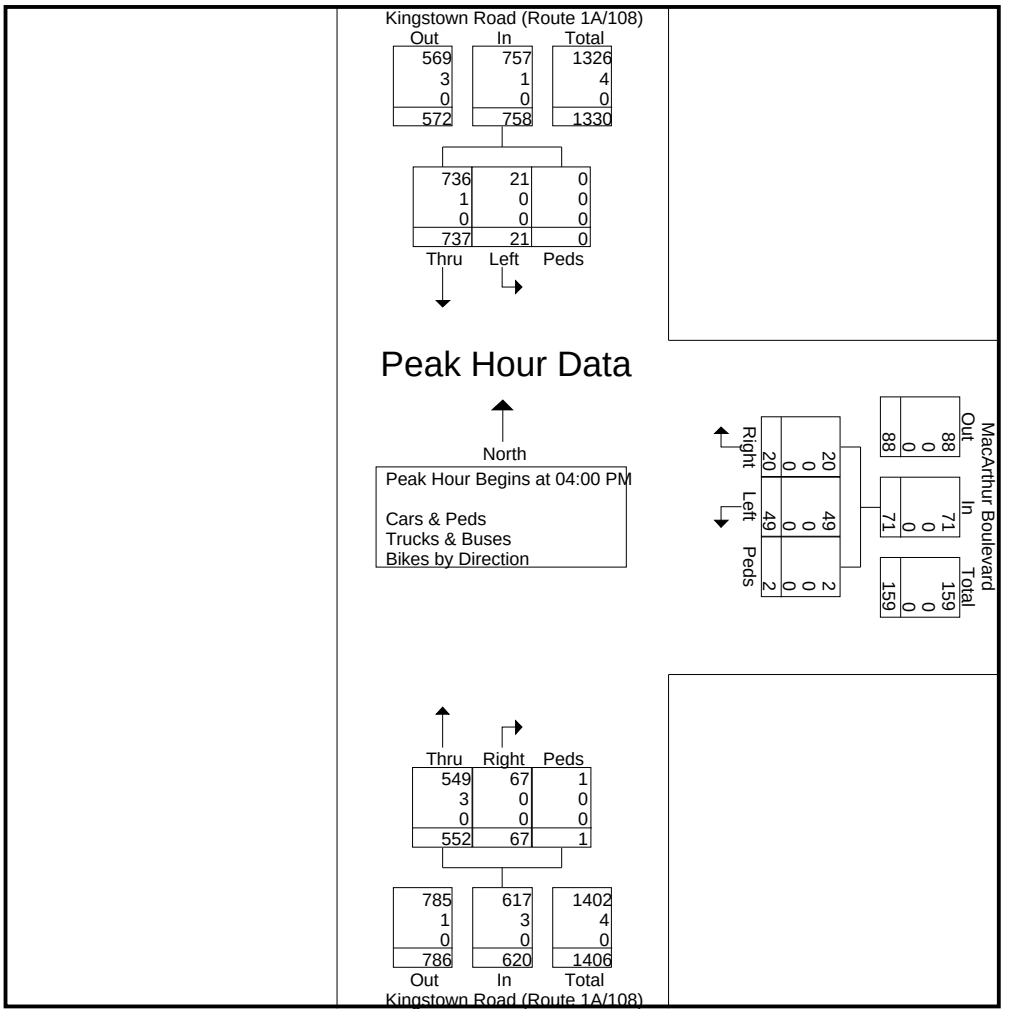
Client: Pare/J. Shevlin

File Name : 05499D
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

	Kingstown Road (Route 1A/108) From North				MacArthur Boulevard From East				Kingstown Road (Route 1A/108) From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	162	**6**	0	168	6	12	0	18	16	129	0	145	331
04:15 PM	**204**	4	0	**208**	**8**	**13**	**1**	**22**	16	**141**	**1**	158	**388**
04:30 PM	181	6	0	187	3	13	1	17	**24**	141	0	**165**	369
04:45 PM	190	5	0	195	3	11	0	14	11	141	0	152	361
Total Volume	737	21	0	758	20	49	2	71	67	552	1	620	1449
% App. Total	97.2	2.8	0		28.2	69	2.8		10.8	89	0.2		
PHF	.903	.875	.000	.911	.625	.942	.500	.807	.698	.979	.250	.939	.934
Cars & Peds	736	21	0	757	20	49	2	71	67	549	1	617	1445
% Cars & Peds	99.9	100	0	99.9	100	100	100	100	100	99.5	100	99.5	99.7
Trucks & Buses	1	0	0	1	0	0	0	0	0	3	0	3	4
% Trucks & Buses	0.1	0	0	0.1	0	0	0	0	0	0.5	0	0.5	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0



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E: MacArthur Boulevard
City, State: Wakefield, RI
Client: Pare/J. Shevlin

File Name : 05499D
Site Code : 05499
Start Date : 12/9/2021
Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

	Kingstown Road (Route 1A/108) From North			MacArthur Boulevard From East			Kingstown Road (Route 1A/108) From South			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Peds	Int. Total
04:00 PM	162	6	0	6	12	0	16	129	0	331
04:15 PM	204	4	0	8	13	1	16	141	1	388
04:30 PM	181	6	0	3	13	1	24	141	0	369
04:45 PM	190	5	0	3	11	0	11	141	0	361
Total	737	21	0	20	49	2	67	552	1	1449
05:00 PM	191	0	0	4	11	0	7	118	0	331
05:15 PM	161	7	0	3	8	0	6	91	3	279
05:30 PM	157	3	0	2	7	0	7	94	3	273
05:45 PM	150	6	0	4	2	0	1	72	0	235
Total	659	16	0	13	28	0	21	375	6	1118
Grand Total	1396	37	0	33	77	2	88	927	7	2567
Apprch %	97.4	2.6	0	29.5	68.8	1.8	8.6	90.7	0.7	
Total %	54.4	1.4	0	1.3	3	0.1	3.4	36.1	0.3	
Cars & Peds	1392	35	0	33	77	2	88	924	7	2558
% Cars & Peds	99.7	94.6	0	100	100	100	100	99.7	100	99.6
Trucks & Buses	4	2	0	0	0	0	0	3	0	9
% Trucks & Buses	0.3	5.4	0	0	0	0	0	0.3	0	0.4
Bikes by Direction	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0

	Kingstown Road (Route 1A/108) From North				MacArthur Boulevard From East				Kingstown Road (Route 1A/108) From South				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	162	**6**	0	168	6	12	0	18	16	129	0	145	331
04:15 PM	**204**	4	0	**208**	**8**	**13**	**1**	**22**	16	**141**	**1**	158	**388**
04:30 PM	181	6	0	187	3	13	1	17	**24**	141	0	**165**	369
04:45 PM	190	5	0	195	3	11	0	14	11	141	0	152	361
Total Volume	737	21	0	758	20	49	2	71	67	552	1	620	1449
% App. Total	97.2	2.8	0		28.2	69	2.8		10.8	89	0.2		
PHF	.903	.875	.000	.911	.625	.942	.500	.807	.698	.979	.250	.939	.934
Cars & Peds	736	21	0	757	20	49	2	71	67	549	1	617	1445
% Cars & Peds	99.9	100	0	99.9	100	100	100	100	100	99.5	100	99.5	99.7
Trucks & Buses	1	0	0	1	0	0	0	0	0	3	0	3	4
% Trucks & Buses	0.1	0	0	0.1	0	0	0	0	0	0.5	0	0.5	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0

Pare Corporation

8 Blackstone Valley Place
Lincoln, RI, 02865
401-334-4100
www.parecorp.com

N/S: Kingstown Road
E/W: Old Tower Hill Road
City, State: North Kingston, RI
Taken By: HA

Groups Printed- Cars/Peds - Heavy Vehicles/Buses - Bikes

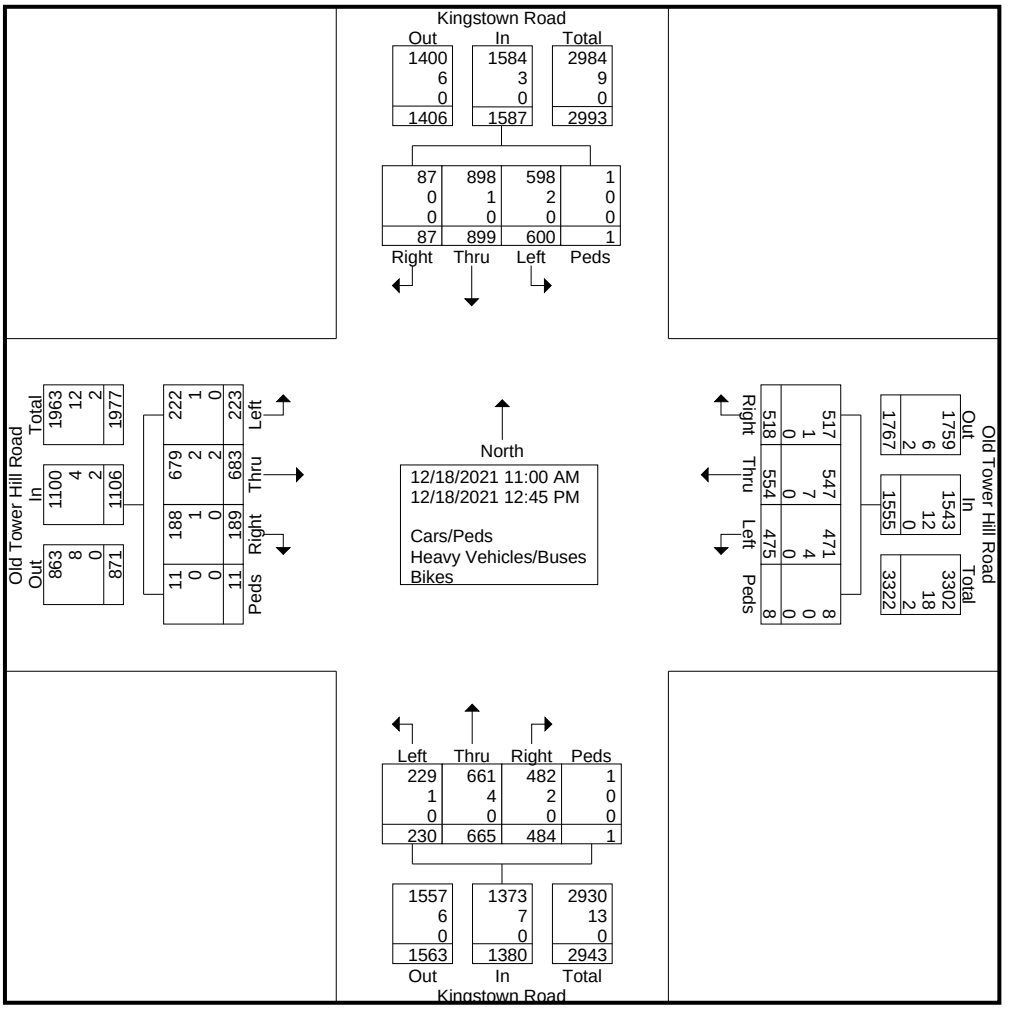
	Kingstown Road From North					Old Tower Hill Road From East					Kingstown Road From South					Old Tower Hill Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	15	111	77	0	203	79	76	53	0	208	66	95	32	0	193	23	111	26	0	160	764
11:15 AM	7	125	69	0	201	69	76	56	0	201	65	71	26	0	162	30	96	28	0	154	718
11:30 AM	11	128	81	0	220	42	70	59	2	173	65	79	32	0	176	21	64	29	0	114	683
11:45 AM	9	116	76	0	201	71	82	63	0	216	51	94	28	1	174	21	86	41	0	148	739
Total	42	480	303	0	825	261	304	231	2	798	247	339	118	1	705	95	357	124	0	576	2904
12:00 PM	5	100	83	0	188	66	64	62	0	192	61	61	25	0	147	19	66	25	0	110	637
12:15 PM	10	113	67	0	190	61	64	69	2	196	63	93	22	0	178	29	85	17	1	132	696
12:30 PM	10	87	57	0	154	62	53	51	1	167	61	73	22	0	156	26	85	26	3	140	617
12:45 PM	20	119	90	1	230	68	69	62	3	202	52	99	43	0	194	20	90	31	7	148	774
Total	45	419	297	1	762	257	250	244	6	757	237	326	112	0	675	94	326	99	11	530	2724

Pare Corporation

8 Blackstone Valley Place
Lincoln, RI, 02865
401-334-4100
www.parecorp.com

Groups Printed- Cars/Peds - Heavy Vehicles/Buses - Bikes

	Kingstown Road From North					Old Tower Hill Road From East					Kingstown Road From South					Old Tower Hill Road From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	87	899	600	1	1587	518	554	475	8	1555	484	665	230	1	1380	189	683	223	11	1106	5628
Apprch %	5.5	56.6	37.8	0.1		33.3	35.6	30.5	0.5		35.1	48.2	16.7	0.1		17.1	61.8	20.2	1		
Total %	1.5	16	10.7	0	28.2	9.2	9.8	8.4	0.1	27.6	8.6	11.8	4.1	0	24.5	3.4	12.1	4	0.2	19.7	
Cars/Peds	87	898	598	1	1584	517	547	471	8	1543	482	661	229	1	1373	188	679	222	11	1100	5600
% Cars/Peds	100	99.9	99.7	100	99.8	99.8	98.7	99.2	100	99.2	99.6	99.4	99.6	100	99.5	99.5	99.4	99.6	100	99.5	99.5
Heavy Vehicles/Buses	0	1	2	0	3	1	7	4	0	12	2	4	1	0	7	1	2	1	0	4	26
% Heavy Vehicles/Buses	0	0.1	0.3	0	0.2	0.2	1.3	0.8	0	0.8	0.4	0.6	0.4	0	0.5	0.5	0.3	0.4	0	0.4	0.5
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0



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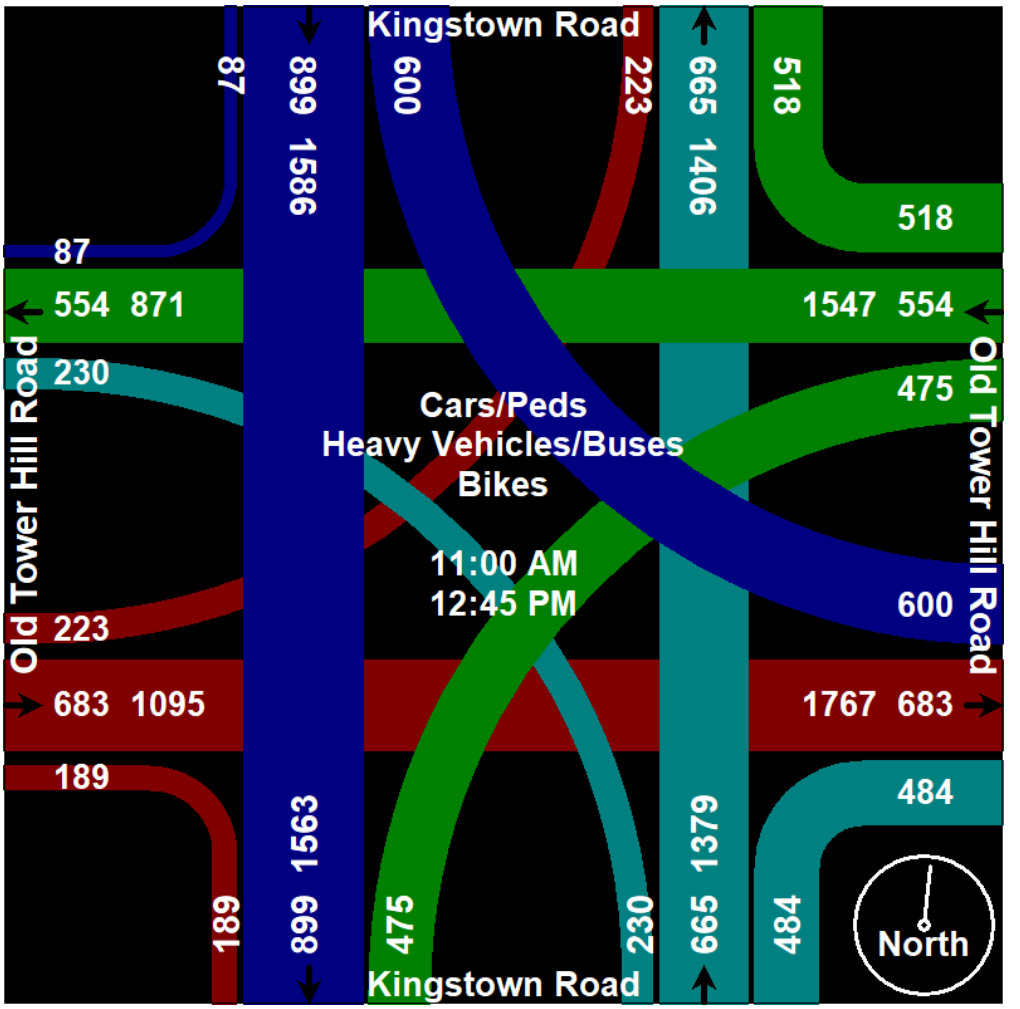

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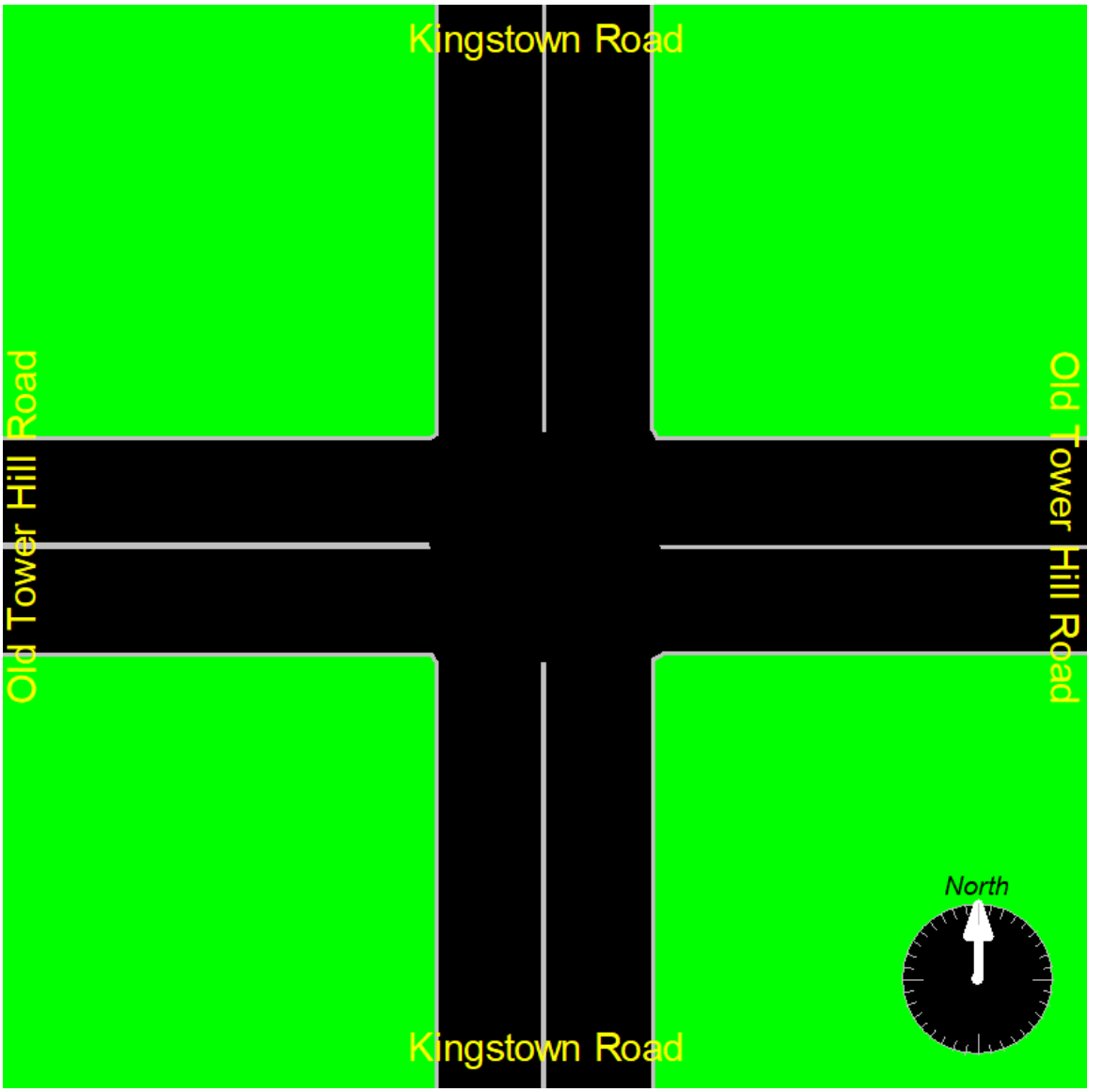

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N/S: Pershing Avenue
E/W: Old Tower Hill Road
City, State: North Kingston, RI
Taken By: MJC

File Name : Pershing Avenue at Old Tower Hill Road
Site Code : 20179.01
Start Date : 12/18/2021
Page No : 1

Groups Printed- Cars/Peds

	Pershing Avenue From North					Old Tower Hill Road From East					Pershing Avenue From South					Old Tower Hill Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	2	164	7	0	173	8	0	7	0	15	5	237	0	0	242	430
11:15 AM	0	0	0	0	0	0	195	6	0	201	9	0	10	0	19	7	207	0	0	214	434
11:30 AM	0	0	0	0	0	0	187	3	1	191	8	0	5	0	13	10	180	0	0	190	394
11:45 AM	0	0	0	0	0	0	187	7	0	194	8	0	7	1	16	6	207	0	0	213	423
Total	0	0	0	0	0	2	733	23	1	759	33	0	29	1	63	28	831	0	0	859	1681
12:00 PM	0	0	0	2	2	0	202	0	0	202	4	0	6	0	10	18	219	0	0	237	451
12:15 PM	0	0	0	0	0	0	167	5	0	172	7	0	2	0	9	5	211	0	0	216	397
12:30 PM	0	0	0	2	2	0	171	7	0	178	12	0	6	1	19	9	205	0	0	214	413
12:45 PM	0	0	0	2	2	0	199	10	0	209	6	0	5	0	11	10	194	0	0	204	426
Total	0	0	0	6	6	0	739	22	0	761	29	0	19	1	49	42	829	0	0	871	1687
Grand Total	0	0	0	6	6	2	1472	45	1	1520	62	0	48	2	112	70	1660	0	0	1730	3368
Apprch %	0	0	0	100		0.1	96.8	3	0.1		55.4	0	42.9	1.8		4	96	0	0		
Total %	0	0	0	0.2	0.2	0.1	43.7	1.3	0	45.1	1.8	0	1.4	0.1	3.3	2.1	49.3	0	0	51.4	

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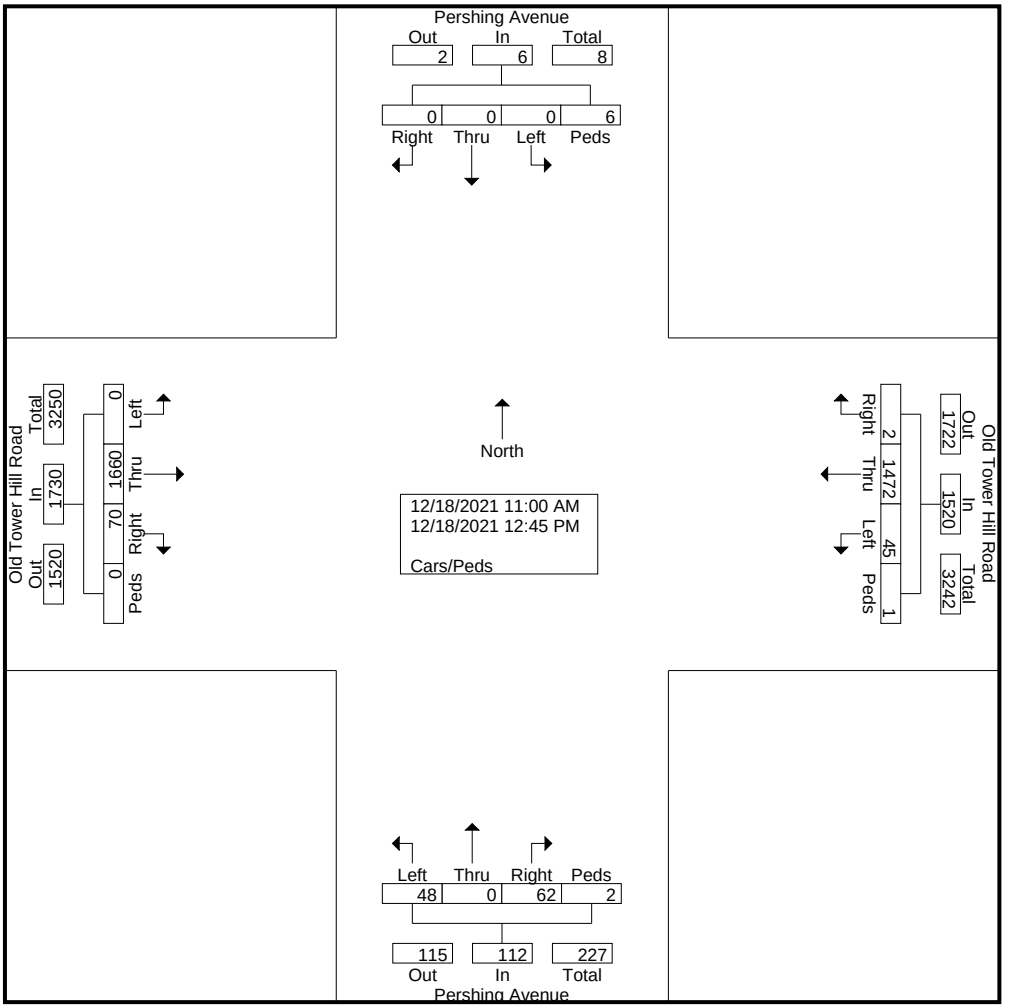
File Name : Pershing Avenue at Old Tower Hill Road
Site Code : 20179.01
Start Date : 12/18/2021
Page No : 2



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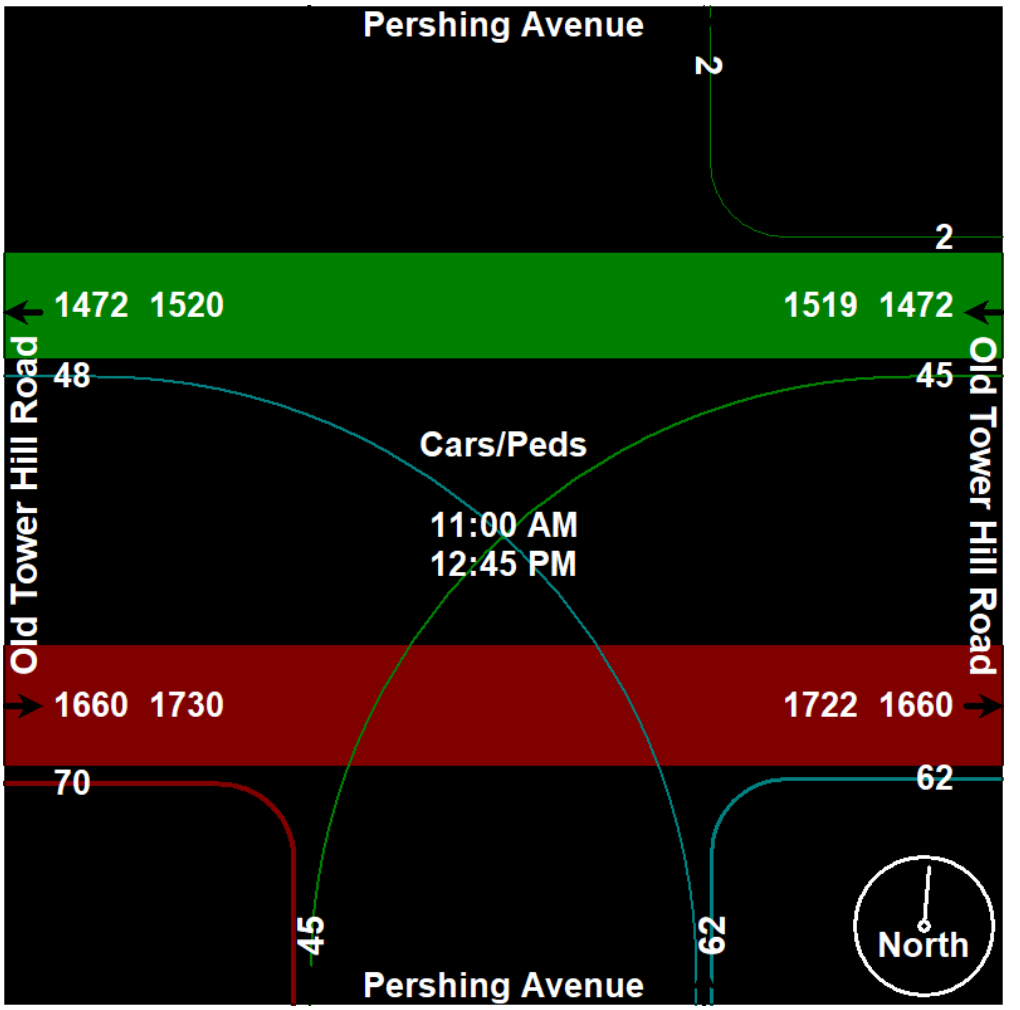
File Name : Pershing Avenue at Old Tower Hill Road
Site Code : 20179.01
Start Date : 12/18/2021
Page No : 3



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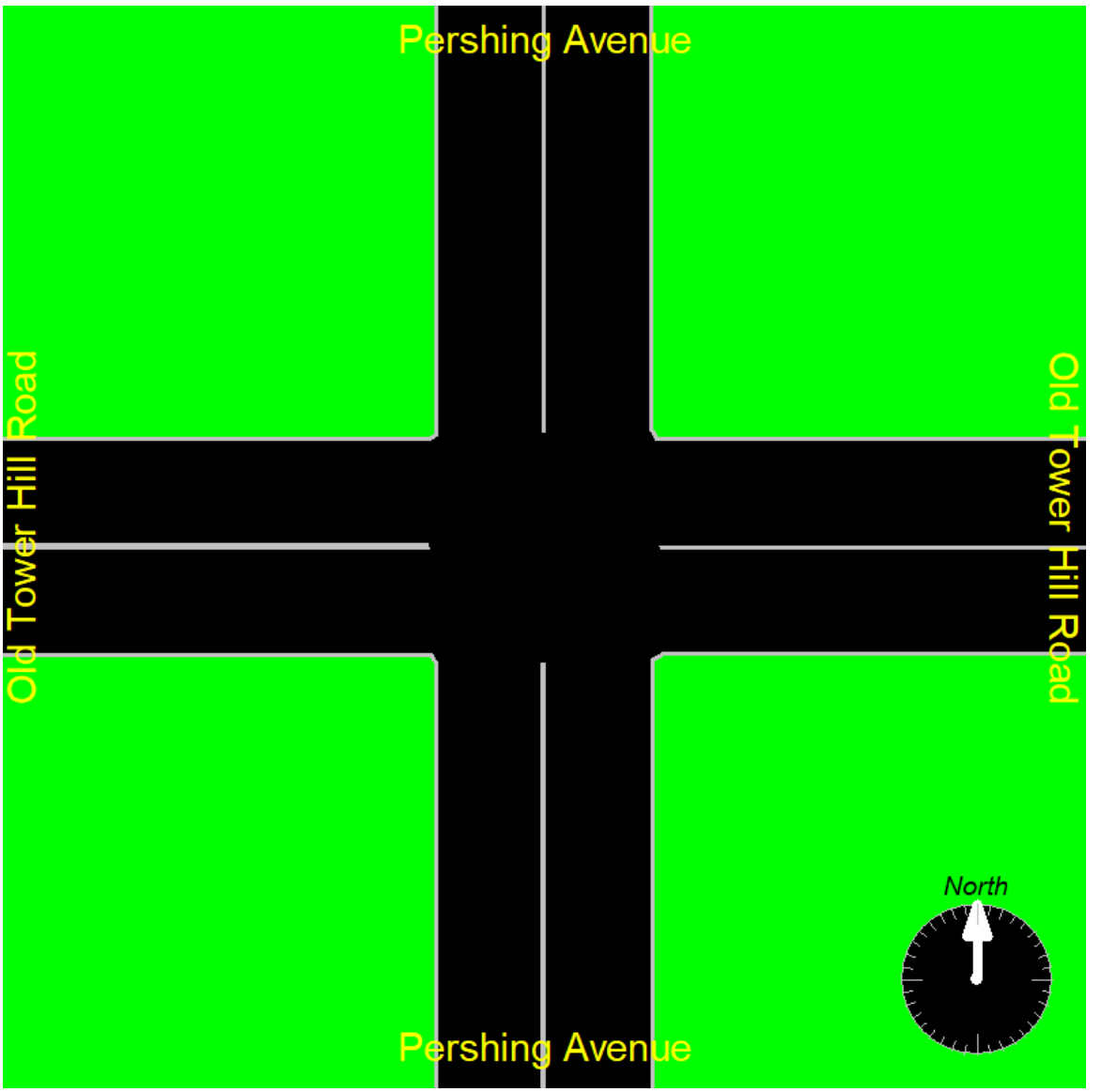
File Name : Pershing Avenue at Old Tower Hill Road
Site Code : 20179.01
Start Date : 12/18/2021
Page No : 4



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N/S Perishing Avenue
E/W MacArthur Boulevard
Narragansett Rhode Island
MSC

Groups Printed- Cars/Peds

	A MAC From North					PER From East					A MAC From South					PER From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	7	0	7	12	0	0	0	12	1	0	0	0	1	0	0	0	1	1	21
11:15 AM	0	5	3	0	8	5	0	0	0	5	0	2	0	0	2	0	0	0	0	0	15
11:30 AM	0	4	4	0	8	7	0	1	0	8	2	1	0	0	3	0	0	0	0	0	19
11:45 AM	0	2	2	0	4	5	0	1	1	7	0	0	0	0	0	0	0	0	0	0	11
Total	0	11	16	0	27	29	0	2	1	32	3	3	0	0	6	0	0	0	1	1	66
12:00 PM	0	2	2	1	5	6	0	0	1	7	0	1	0	0	1	0	0	0	0	0	13
12:15 PM	0	3	0	0	3	8	0	0	0	8	1	0	0	0	1	0	0	0	0	0	12
12:30 PM	0	4	2	0	6	9	0	0	1	10	1	10	0	0	11	0	0	0	0	0	27
12:45 PM	0	6	7	1	14	9	0	1	0	10	1	1	0	0	2	0	0	0	0	0	26
Total	0	15	11	2	28	32	0	1	2	35	3	12	0	0	15	0	0	0	0	0	78

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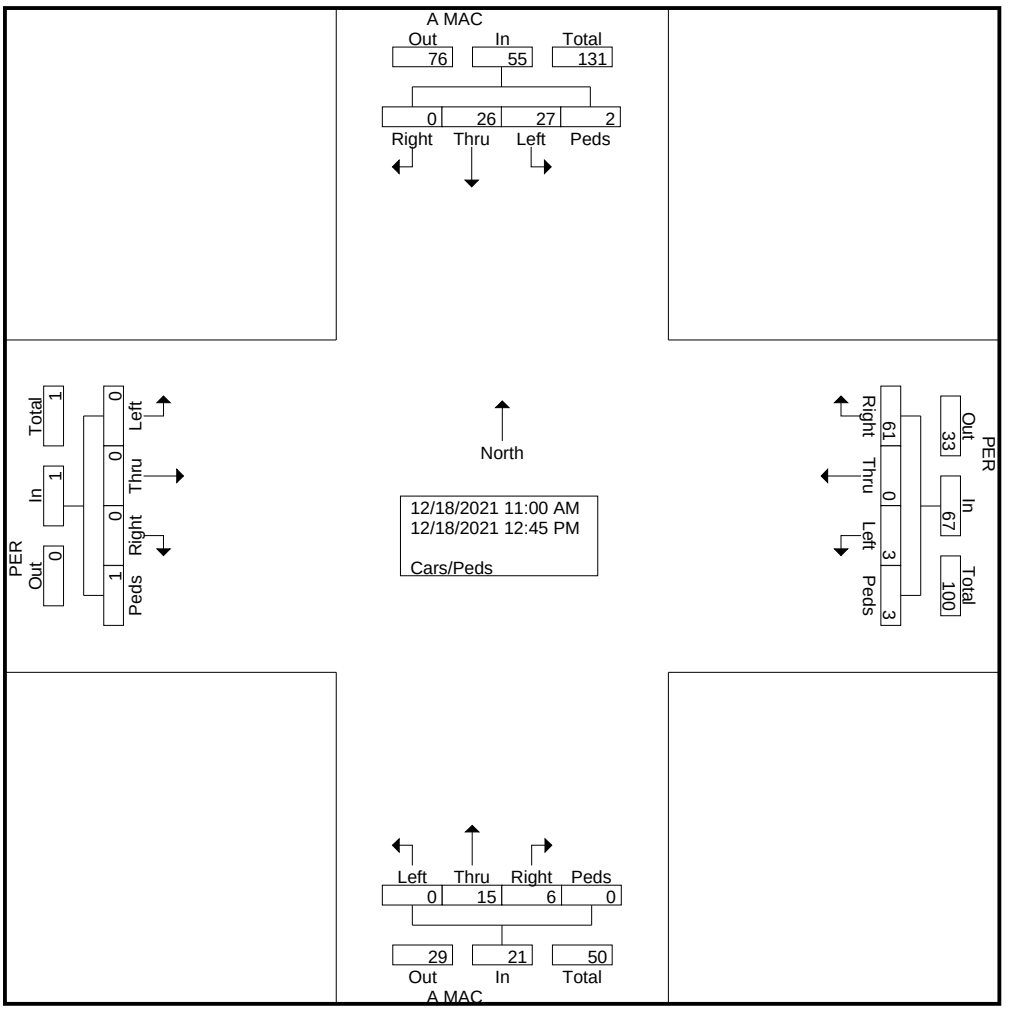
Groups Printed- Cars/Peds

	A MAC From North					PER From East					A MAC From South					PER From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	0	26	27	2	55	61	0	3	3	67	6	15	0	0	21	0	0	0	1	1	144
Apprch %	0	47.3	49.1	3.6		91	0	4.5	4.5		28.6	71.4	0	0		0	0	0	100		
Total %	0	18.1	18.8	1.4	38.2	42.4	0	2.1	2.1	46.5	4.2	10.4	0	0	14.6	0	0	0	0.7	0.7	



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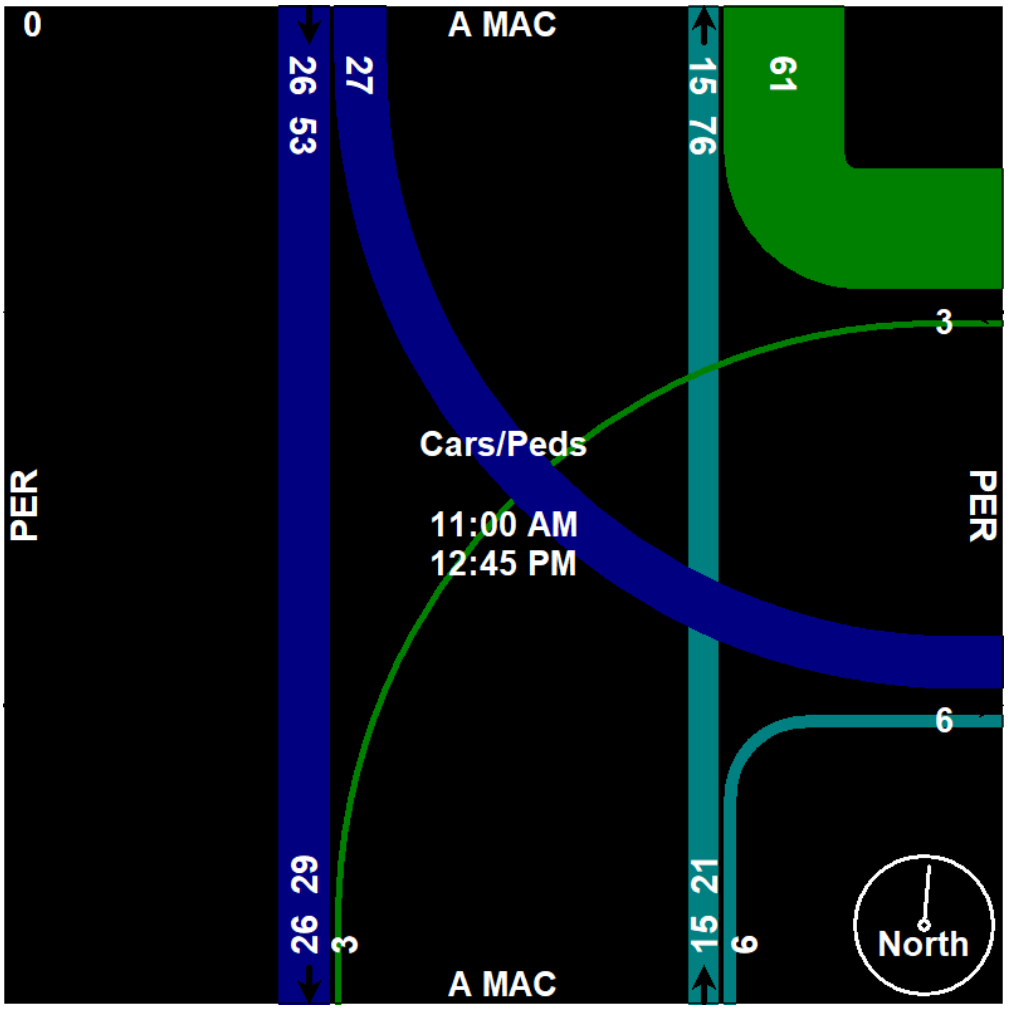

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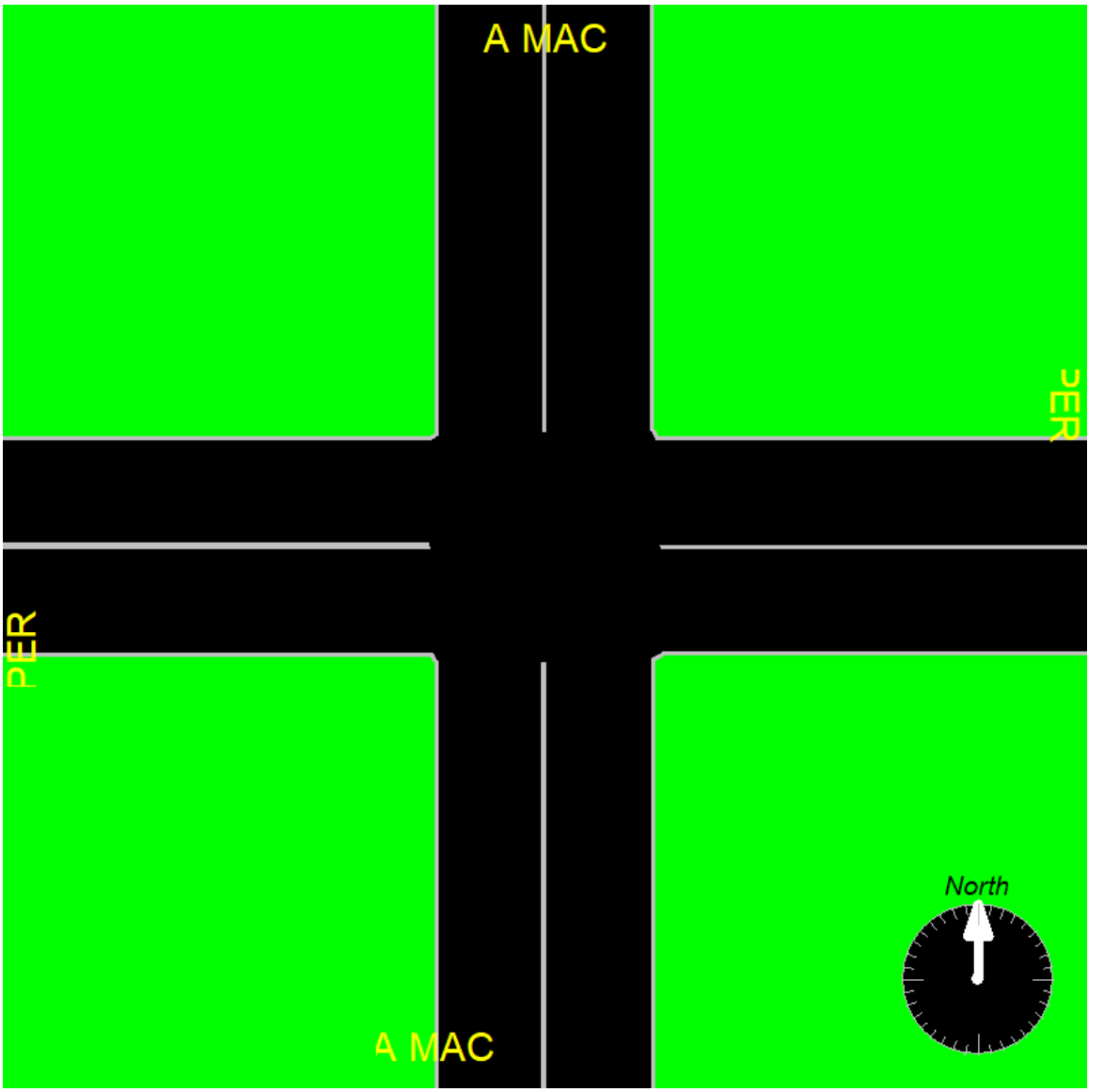

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N/S: Kingstown Road
E/W: MacArthur Boulevard
City, State: North Kingston, RI
Taken By: TG

Groups Printed- Cars/Peds - Heavy Vehicles/Buses - Bikes

	Kingstown Road From North					MacArthur Boulevard From East					Kingstown Road From South					MacArthur Boulevard From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	152	5	0	157	13	0	28	0	41	19	143	0	0	162	0	0	0	0	0	360
11:15 AM	0	158	5	0	163	6	0	14	0	20	23	149	0	0	172	0	0	0	0	0	355
11:30 AM	0	168	3	0	171	8	0	28	0	36	21	129	0	0	150	0	0	0	0	0	357
11:45 AM	0	167	4	0	171	6	0	9	0	15	26	169	0	0	195	0	0	0	0	0	381
Total	0	645	17	0	662	33	0	79	0	112	89	590	0	0	679	0	0	0	0	0	1453
12:00 PM	0	153	6	0	159	10	0	20	0	30	16	159	0	2	177	0	0	0	0	0	366
12:15 PM	0	158	3	0	161	7	0	18	0	25	13	163	0	0	176	0	0	0	0	0	362
12:30 PM	0	148	7	0	155	11	0	24	0	35	18	131	0	0	149	0	0	0	0	0	339
12:45 PM	0	166	10	0	176	3	0	14	0	17	15	165	0	0	180	0	0	0	0	0	373
Total	0	625	26	0	651	31	0	76	0	107	62	618	0	2	682	0	0	0	0	0	1440

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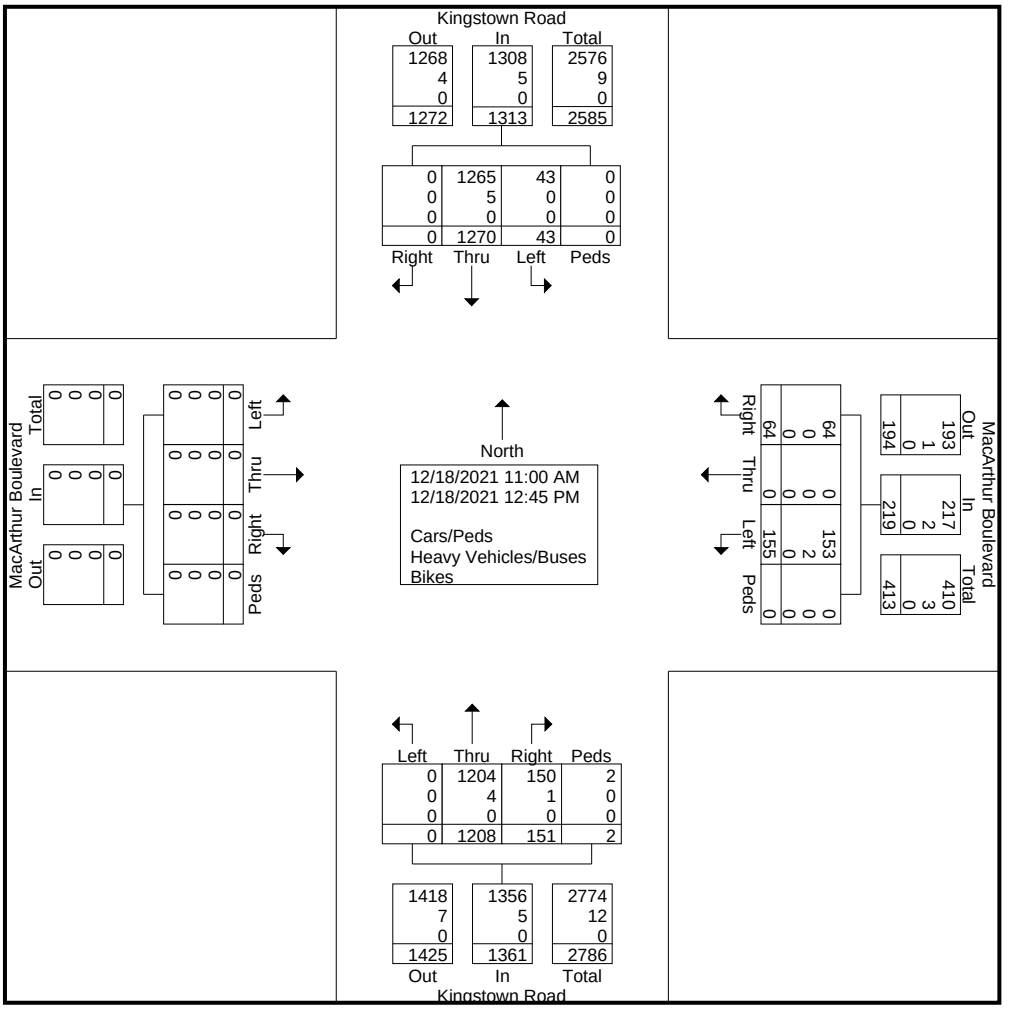
Groups Printed- Cars/Peds - Heavy Vehicles/Buses - Bikes

	Kingstown Road From North					MacArthur Boulevard From East					Kingstown Road From South					MacArthur Boulevard From West					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Grand Total	0	1270	43	0	1313	64	0	155	0	219	151	1208	0	2	1361	0	0	0	0	0	2893
Apprch %	0	96.7	3.3	0		29.2	0	70.8	0		11.1	88.8	0	0.1		0	0	0	0		
Total %	0	43.9	1.5	0	45.4	2.2	0	5.4	0	7.6	5.2	41.8	0	0.1	47	0	0	0	0	0	
Cars/Peds	0	1265	43	0	1308	64	0	153	0	217	150	1204	0	2	1356	0	0	0	0	0	2881
% Cars/Peds	0	99.6	100	0	99.6	100	0	98.7	0	99.1	99.3	99.7	0	100	99.6	0	0	0	0	0	99.6
Heavy Vehicles/Buses	0	5	0	0	5	0	0	2	0	2	1	4	0	0	5	0	0	0	0	0	12
% Heavy Vehicles/Buses	0	0.4	0	0	0.4	0	0	1.3	0	0.9	0.7	0.3	0	0	0.4	0	0	0	0	0	0.4
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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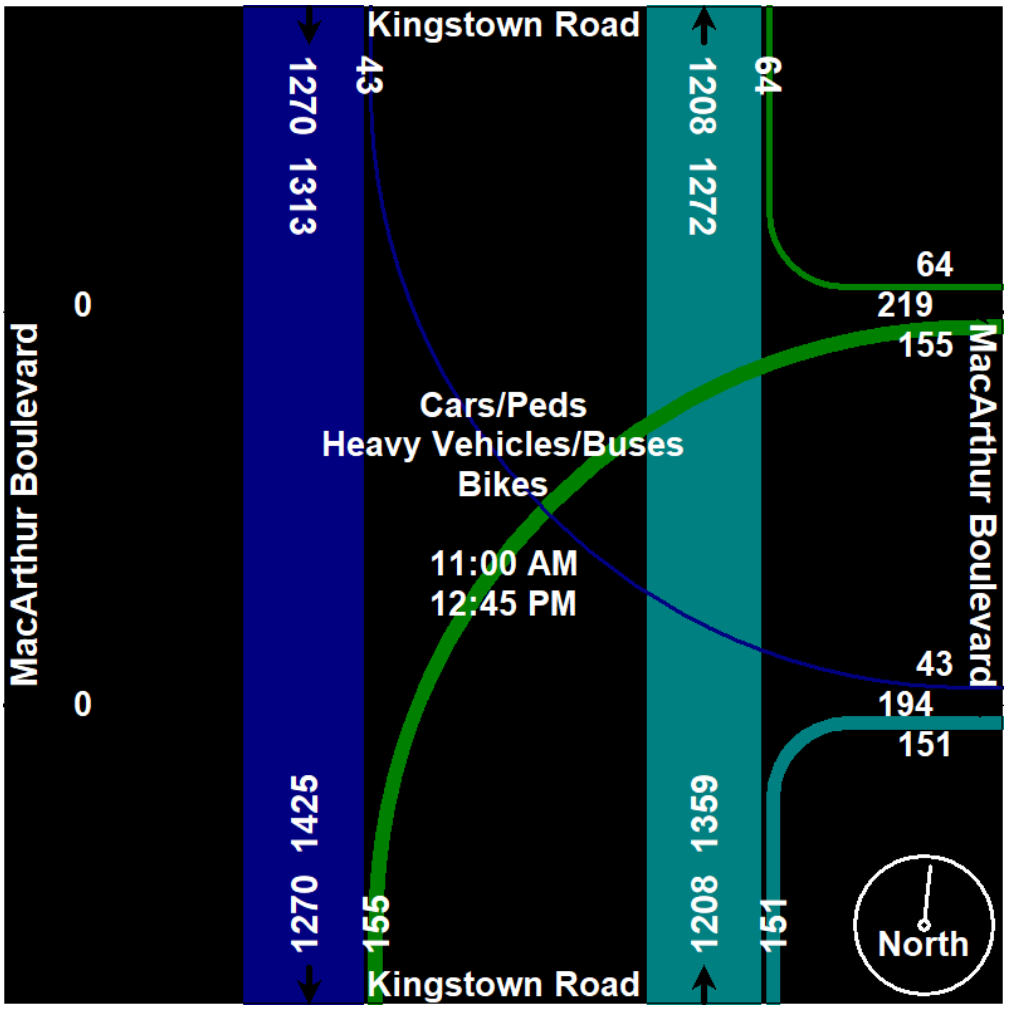

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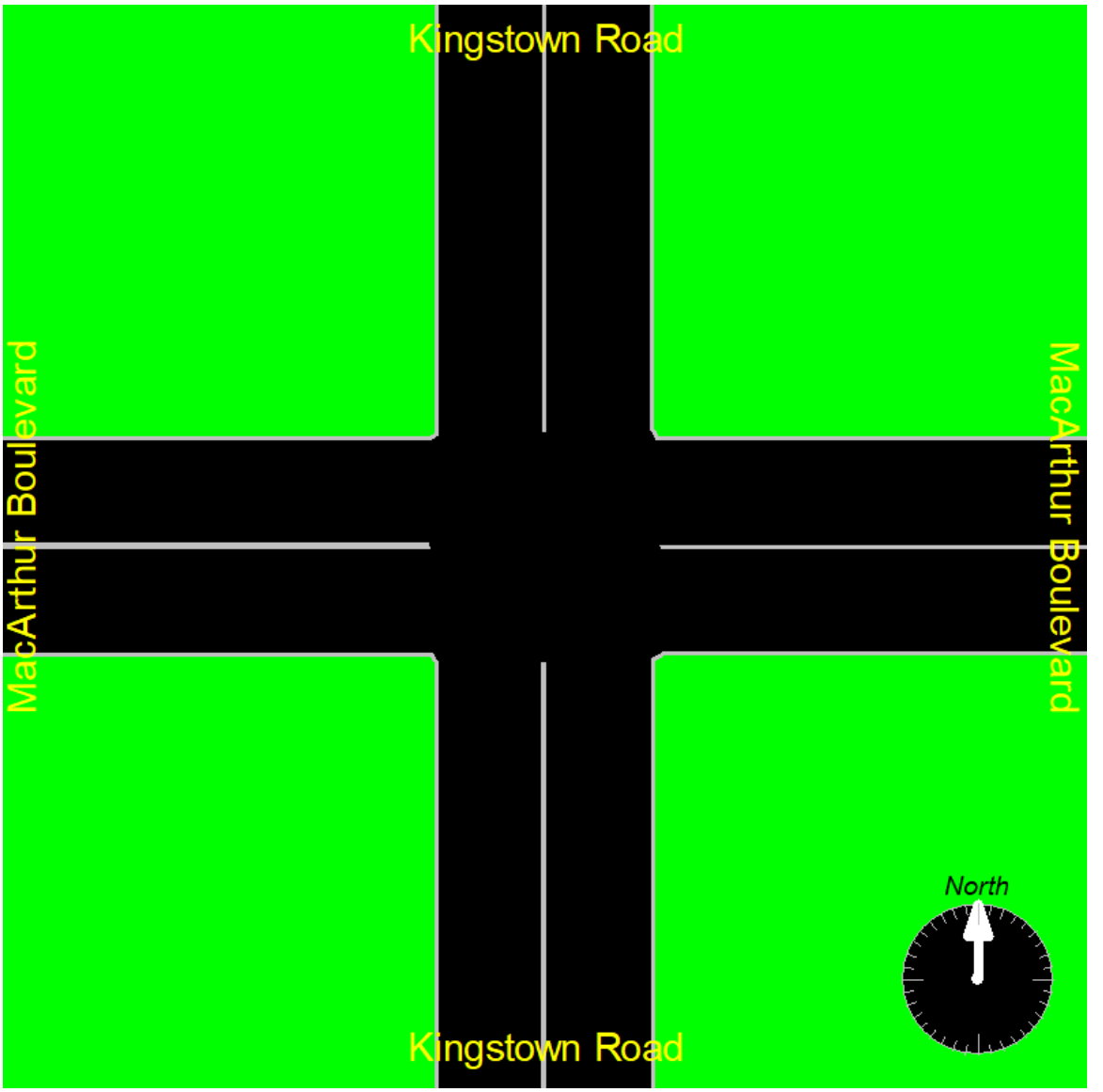


APPENDIX B

RIPTA Bus Route Map

HOW TO USE THIS MAP

The Rhode Island Public Transit Authority (RIPTA) welcomes you on board our buses and trolleys. Hop on and enjoy the ride!

This system map is designed to help you identify which areas of Rhode Island are served by RIPTA bus routes. The map also shows some key points of interest and landmarks to help you get oriented. The map is broken into several views: Close-up views of Newport, Providence and Kennedy Plaza; a greater metropolitan area map showing Providence, Warwick, Pawtucket and surrounding areas; and on the other side, a statewide map.

We serve almost every community in the state and using the key, you will see that we have high frequency options in and around the capital city of Providence. You can use the map to help you plan a trip, or you can try our easy-to-use trip planner on RIPTA.com. Our website also has schedules for each individual route and a description of RIPTA's family of services.

Below are details about some of our special programs highlighted in the legend and on the map:

R-Line: RIPTA's rapid bus line. It offers high frequency service, running every 10 minutes during the day and every 20 minutes at night, with limited stops for faster trips.

Park-n-Ride: Strategically located parking lots that are free of charge to anyone who parks a vehicle and commutes by transit or carpool. (See insert for detailed locations)

FlexService: Flex Zones represent a suburban or rural area that has little or no fixed-route bus service. Flex service offers passengers the option of reserving a ride by calling ahead, catching the Flex Vehicle at one of its regularly scheduled Flex Stops, or requesting a stop anywhere within the FlexZone (see map). Call the FlexLine at 401-781-9400 to schedule 24 hours in advance.

LEGEND

Rapid Bus
- R — High frequency. Service every 10 minutes on weekdays. Limited stops.

High Frequency
- 11 — High frequency. Every 20 minutes or less on weekdays.
- 14 — Less frequent service. Route variations.

Local & Regional Bus
- 17, 19 — Multiple routes operate together to offer high frequency. Every 20 minutes or less on weekdays.
- 12 — All day service on weekdays and on some nights and weekends.
- 66 — Limited hours of service.
- 20 — Highway operation. No Stops.

Express
- 60 — Long distance. High frequency. Every 20 minutes or less on weekdays.
- 90 — Long distance. All day service.
- 914 — Long distance. Limited hours of service. Limited stops.
- 920 — Long distance. Highway operation. No stops.

FlexZone
- 999 Flex — Board at a FlexStop without a reservation and go anywhere within the FlexZone. Call 24 hours in advance to schedule a trip from a non-FlexStop.

Rural Ride
- 305 — Travel between bus stops on the route without a reservation. Call 24 hours in advance for a custom pick up or drop off within 3/4 mile of a bus stop. Friday service only.

Downtown Transit Connector (DTC)
- Provides high-frequency transit service (every 5 minutes at each direction) between the Providence Amtrak/MBTA Station and the Hospital District in Upper South Providence.

See Frequency Chart for more detailed information

- Transit Center
- Park-n-Ride
- Train Station
- Airport
- Ferry
- Education
- Government
- Healthcare
- Recreation
- Shopping
- Interstate Highway
- US Highway
- RI Highway
- Parks & green spaces
- Buildings
- Water
- Railroads
- Ferry Routes

CONNECTING CARRIERS

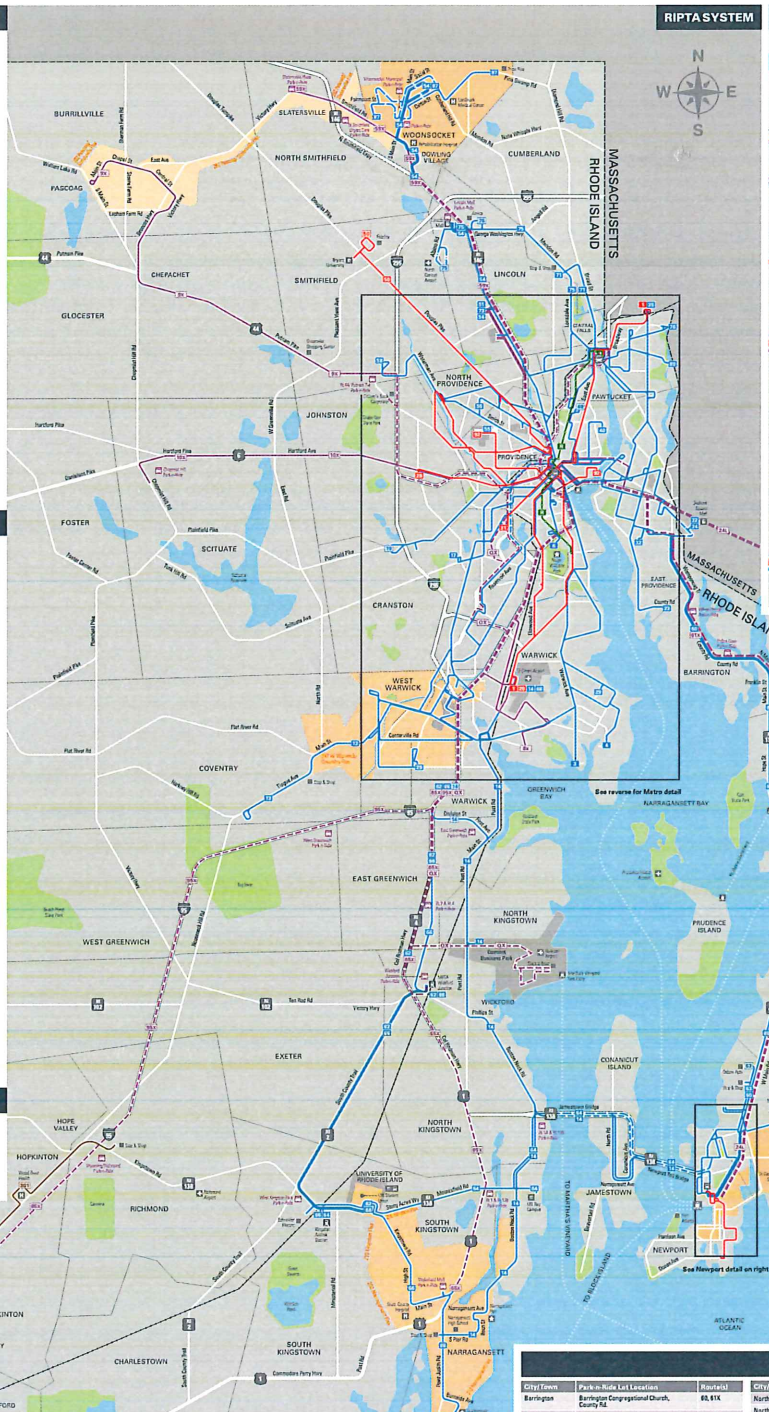
Peter Pan
peterpanbus.com : 1-800-343-9999

GATRA
gatra.org : 800-483-3500

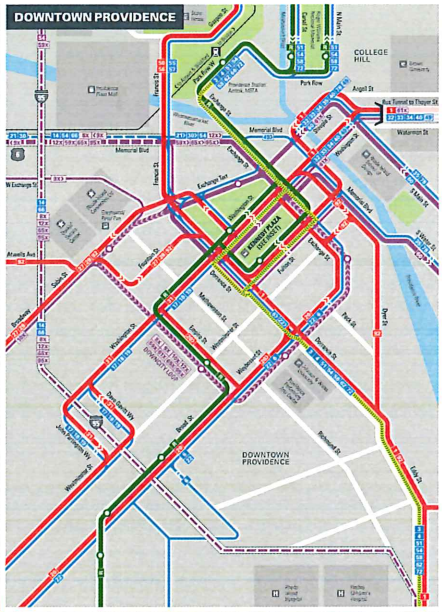
Southeast Area Transit District (SEAT)
seatbus.com : 800-508-2631

SRTA
srtabus.com : 508-999-5211

RIPTA SYSTEM



DOWNTOWN PROVIDENCE



KENNEDY PLAZA

Locations	Rt #
Airport	1, 14, 20
Armory Dist.	17, 18, 19, 31
Broadway	27, 30
East Providence	32, 33, 34, 35, 79
Federal Hill	27, 28, 90-99, 103
Jewelry Dist.	1, 3, 92-E

Locations	Rt #
Newport	60, 14
Olneyville	12, 19, 27, 39
Pawtucket	1-EXPRESS, 7, 8-M MAIN, 72
RI Hospital	1
State House / Capitol Hill	50, 56, 57

Locations	Rt #
Thayer/Brown U	1-EXPRESS, 32, 33, 34, 40, 65
Train Station	8-M MAIN, 50, 51, 56, 57, 58, 72
Twin River	51, 54
Warwick Mall	21, 22, 30
Wayland	33, 33, 34, 60, 92-E

NEWPORT

PARK-N-RIDES

City/Town	Park-n-Ride Lot Location	Route(s)
Barrington	Barrington Congregational Church, County Rd.	60, 61X
Barrington	Police Cove, County Rd.	60, 61X
Bristol	VFW Hall at Hope St. & Creek Lane	60
Bristol	Hope St. at Gooding Ave.	60
Cranston	Garden City, Midway Rd.	21
East Greenwich	First Ave. at CCRI St. (Parking along First Ave.)	14
East Greenwich	Routes 2 & 4	85X, 89
East Providence	Route 44 (Taunton Ave.)	34
Fall River, MA	Pettina Transit Center	24L
Hopkinton	Routes 3 & I-95	95X, 301
Lincoln	Lincoln Mall (Front Entrance for 54, Rear Parking area for 95X)	54, 95X, 75
Newport	Newport Gateway Center	14, 60, 62, 64, 67, 231
Newport	Newport Towne Center at Stop & Shop	60, 64
North Kingstown	Routes 139 & 1A	14, 64
North Kingstown	Wickford Junction, Ten Rod Rd.	65X, 66
North Smithfield	Branch Village, North Smithfield Urgent Care upper lot	55X, 202
North Smithfield	Slatterville Plaza at Routes 146A & 102	55X, 202
Pawtucket	Grace & Pine Sts.	1
Pawtucket	George & Grace Sts.	1
Portsmouth	Boyd's Lane & Route 24	66, 61X
Providence	Charles St. at Route 146 opposite Home Depot	91, 58, 72
Providence	North Main St. at North Burial Ground (On Street Parking)	R-Line
Providence	Chalkstone Ave. at Sisson St.	56
North Providence	Smith St. at Fruit Hill Ave.	57
Richmond	Routes 138 & I-95	95X
Scituate	Chopmist Hill Fire Station	16X
Smithfield	Route 44 & Commerce Way (Behind Rice Auto)	9X
Somerset, MA	Wilbur Ave, Somerset, MA	24L
South Kingstown	Routes 1 & 138 At Tower Hill	65X
South Kingstown	Wakefield Mall (Old Tower Hill Rd.)	64, 65X, 66, 253
South Kingstown	West Kingston Park at Route 138	66
Tiverton	Fish Rd. & Route 24	24L, 61X
Warren	Franklin St. Near Main St. at East Bay Bike	60, 61X
Warwick	Routes 117 & I-95	12X, 242
Warwick	Main Ave. & Jefferson Blvd. at Greenwood Community Church	8X
Westerly	Westerly Railroad Station, Railroad Ave.	95X, 224, 301
West Greenwich	New London Turnpike & I-95 (Exit 7)	95X
Woonsocket	Route 146A & Park Ave., Park Square	56, 59X
Woonsocket	Main St. Municipal Lots	56, 87, 231

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- CustomerRelations@RIPTA.com
- RIPTA.com
- 401.781.9400

RIPTA is fully committed with the requirements of the Americans with Disabilities Act (ADA)

POPULAR DESTINATIONS

Bus Transfers

Major Transfers	Location	City	Routes
Newport Gateway	America's Cup Ave at Marlborough St	Newport	14, 60, 62, 64, 67, 231
Kennedy Plaza	Dorrance St at Washington St	Providence	1, 3, 4, 8X, 9X, 12X, R-Line, 17X, 18, 19, 20, 21, 27, 28, 30, 31, 32, 33, 34, 35, 40, 48, 50, 51, 54, 56, 57, 58, 60, 64, 66, 67, 78, 92, 95X, 99X
Warwick Mall	Warwick Mall Road Opp. Theaters	Warwick	13, 21, 22, 29, 30, 62, 242
URI	Lower College Rd at Student Union	South Kingstown	62, 64, 66, 210
Pawtucket Transfer Center	Roosevelt Ave at Main St	Pawtucket	1, R-Line, 71, 72, 73, 75, 78, 79, 99
Olneyville Square	Westminster St at Broadway	Providence	17, 19, 27, 28
Wampanoag Plaza	Pawtucket Ave at Taunton Ave	East Providence	33, 34, 79

Education

Major Destinations	City/Town	Route(s)
Brown University	Providence	1, 32, 33, 34, 40, 49
Bryant University	Smithfield	59
CCRI-Lincoln	Lincoln	51, 54, 73
CCRI-Newport	Newport	63, 64
CCRI-Providence	Providence	6
CCRI-Warwick	Warwick	21, 23, 62, 66
Nursing Education Center	Providence	1, 3, 58, 67, 92
Johnson & Wales University	Providence	1, 3, 8, 20, 22
Providence College	Providence	55, 57
Rhode Island College	Providence	55, 92
Rhode Island School of Design	Providence	1, 32, 33, 34, 35, 40, 48, 78
Roger Williams University	Bristol	60, 61X
Salve Regina University	Newport	67
University of Rhode Island	South Kingstown	62, 64, 66

Government

Major Destinations	City/Town	Route(s)
RI DMV	Cranston	21
State House	Providence	50, 55, 56, 57

Healthcare

Major Destinations	City/Town	Route(s)
Butler Hospital	Providence	60
Hasbro Childrens Hospital	Providence	1, 3, 4, 51, 54, 58, 72
Kent Hospital	Warwick	29
Miriam Hospital	Providence	1, R-Line, 49
Neighborhood Health Station	Central Falls	71
Newport Hospital	Newport	60, 63
Our Lady of Fatima Hospital	North Providence	55
RI Hospital	Providence	1, 3, 4, 51, 54, 58, 72
VA Hospital	Providence	56
Women & Infants Hospital	Providence	1, 3, 4, 8, 51, 54, 58, 72

Recreation

Major Destinations	City/Town	Route(s)
Dunkin Donuts Center	Providence	22, 28, 32
Jenks Park/Cogswell Tower	Central Falls	71
Mansions/Cliff Walk	Newport	67
McCoy Stadium	Pawtucket	80
Narragansett Beaches	Narragansett	14, 66
Newport Grand Casino	Newport	63
RI Convention Center	Providence	27, 28, 32
Roger Williams Park & Zoo	Providence	R, 8, 20
Slater Mill	Pawtucket	1, R-Line, 71, 72, 73, 75, 78, 80
Twin River Casino	Lincoln	51, 54, 73

Shopping

Major Destinations	City/Town	Route(s)
Brewery Parkade	Cranston	31
Garden City	Cranston	21
Lincoln Mall	Lincoln	54, 59X, 75
Providence Plaza Mall	Providence	50, 55, 56, 57
Rhode Island Mall	Warwick	21, 29
Seekonk Square Mall	Seekonk	32, 34
Wampanoag Plaza	East Providence	33, 34, 79
Warwick Mall	Warwick	13, 21, 22, 28, 30

Transport

Major Destinations	City/Town	Route(s)
Gallea Ferry Dock	Narragansett	66
Kingston Train Station	South Kingstown	64, 66
Providence Train Station	Providence	R-Line, 3, 4, 50, 51, 54, 55, 58, 59, 62, 66, 72
T.F. Green Airport	Warwick	1, 14, 14, 20, 66
Wickford Jct Train Station	North Kingstown	62, 65X, 66

ADDITIONAL INFORMATION

BIKE-FRIENDLY BUSES

All you need to get around might be your own trusty bike. Learn how to use the power of you to make your commute a breeze and enjoy some health benefits too! There are many programs in place to help make biking a viable alternative to driving alone.

ripta.com/bike

VANPOOL

Smarter than driving alone. Better than a typical carpool. RIPTA has partnered with Commute with Enterprise and is now offering a $60 per person monthly subsidy to vanpool participants in Rhode Island!

A vanpool consists of a group of commuters who work similar hours and who travel similar routes. For example, it could be eight people who all live in western Cranston and work in businesses at Quonset Business Park. The participants sign up to lease a comfortable, late-model van or SUV provided by Commute with Enterprise.

The participants decide if they will have a primary driver or rotate driving responsibilities. They also decide the daily route and the times that the van arrives at and leaves work. The participants decide on all stop locations, so they can meet at a designated location, such as a Park N' Ride lot, or be picked up from their homes. The van can be parked overnight at the driver's home or any other designated location approved by Enterprise.

ripta.com/vanpool

COMMUTE with enterprise

COMMUTER RESOURCES

As advocates for practical and earth friendly commuting options, we work to change the way Rhode Islanders think about their transit choices. Our work helps the public save on fuel costs, parking expenses and time by encouraging the use of convenient and safe methods of travel as environmentally conscious alternatives to driving alone.

RIPTA and Commuter Resource Rhode Island (CRRI) are partners in helping Rhode Islanders get around the state while saving time, money and the environment. CRRI is dedicated to helping travelers navigate RIPTA services as well as providing guidance for using other commuting alternatives. We have staff available to come talk to your group or meet with you individually to help explore your commuting options.

ripta.com/employer-programs

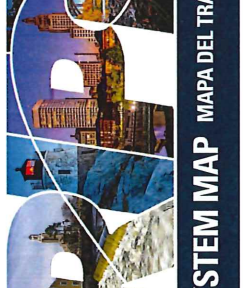
COMMUTERresourceRI

transit+

Wherever you are, just pull Transit out of your pocket and quickly know when the next bus or train is arriving. Not sure what's the fastest way? Use our easy-to-use trip planner to find your way. In addition to RIPTA, Transit supports the MBTA and P&B for integrated trip planning, and provides public transit information in over 78 cities worldwide.

ripta.com/mobile-applications

Effective June 29, 2020



SYSTEM MAP MAPA DEL TRANSPORTE PÚBLICO

APPENDIX C

Background Growth Data

South Kingstown Compassion Center
South Kingstown, RI
Population Growth
PARE Project No. 20179.01
January 4, 2022

US Census Data
City of South Kingstown

	Population
2020	31,931
2010	30,639
Years	10
ANNUAL GROWTH RATE	0.41%
SAY	**0.50%**

https://www.census.gov/quickfacts/fact/table/southkingstowntownwashingtoncountyrhodeisland/PC
https://www.census.gov/quickfacts/fact/table/southkingstowntownwashingtoncountyrhodeisland/PC

Computations by: HA
Checked by: JPS

APPENDIX D

Trip Generation Calculations

PEAK DAY TRIP GENERATIONS-OLNEY MARYLAND

DAY	DATE	TIME	ENTER	EXIT	TOTAL
Monday	6-Sep-21	1:00 pm-2:00 pm	17	17	34
Tuesday	2-Nov-21	6:00 pm-7:00 pm	14	14	28
Wednesday	1-Sep-21	2:00 pm-3:00 pm	16	16	32
Thursday*	2-Sep-21	4:00 pm-5:00 pm	15	15	30
Friday	5-Nov-21	5:00 pm-6:00 pm	21	21	42
Saturday	4-Sep-21	5:00 pm-6:00 pm	19	19	38
Sunday**	5-Sep-21	1:00 pm-2:00 pm	17	17	34

*Volumes were same on Oct 7 (4-5 pm) and Nov 4 (noon-1:00 pm)

** Volumes were same on Oct 3 (3:00 pm-4:00 pm)

PLANT COMPASSION

CHECK IN TIME	DATE		TOTAL CHECK-IN'S
10:00 AM - 11:00 AM	9/1/2021	WED	5
11:00 AM - Noon			9
Noon - 1:00 PM			9
1:00 PM - 2:00 PM			7
2:00 PM - 3:00 PM			16
3:00 PM - 4:00 PM			6
4:00 PM - 5:00 PM			5
5:00 PM - 6:00 PM			9
6:00 PM - 7:00 PM			3
10:00 AM - 11:00 AM	9/2/2021	THURS	4
11:00 AM - Noon			4
Noon - 1:00 PM			6
1:00 PM - 2:00 PM			2
2:00 PM - 3:00 PM			8
3:00 PM - 4:00 PM			4
4:00 PM - 5:00 PM			15
5:00 PM - 6:00 PM			14
6:00 PM - 7:00 PM			11
	9/3/2021	FRI	
10:00 AM - 11:00 AM			6
11:00 AM - Noon			9
Noon - 1:00 PM			12
1:00 PM - 2:00 PM			13
2:00 PM - 3:00 PM			3
3:00 PM - 4:00 PM			11
4:00 PM - 5:00 PM			16
5:00 PM - 6:00 PM			12
6:00 PM - 7:00 PM			10
	9/4/2021	SAT	
10:00 AM - 11:00 AM			5
11:00 AM - Noon			7
Noon - 1:00 PM			7
1:00 PM - 2:00 PM			3
2:00 PM - 3:00 PM			11
3:00 PM - 4:00 PM			3
4:00 PM - 5:00 PM			11
5:00 PM - 6:00 PM			19
6:00 PM - 7:00 PM			10
	9/5/2021	SUN	
10:00 AM - 11:00 AM			0
11:00 AM - Noon			10
Noon - 1:00 PM			11
1:00 PM - 2:00 PM			17
2:00 PM - 3:00 PM			15
3:00 PM - 4:00 PM			15
4:00 PM - 5:00 PM			0
5:00 PM - 6:00 PM			0

CHECK IN TIME	DATE		TOTAL CHECK-IN'S
10:00 AM - 11:00 AM	10/6/2021	WED	3
11:00 AM - Noon			2
Noon - 1:00 PM			7
1:00 PM - 2:00 PM			3
2:00 PM - 3:00 PM			7
3:00 PM - 4:00 PM			7
4:00 PM - 5:00 PM			12
5:00 PM - 6:00 PM			11
6:00 PM - 7:00 PM			10
10:00 AM - 11:00 AM	10/7/2021	THURS	10
11:00 AM - Noon			4
Noon - 1:00 PM			5
1:00 PM - 2:00 PM			7
2:00 PM - 3:00 PM			6
3:00 PM - 4:00 PM			11
4:00 PM - 5:00 PM			15
5:00 PM - 6:00 PM			10
6:00 PM - 7:00 PM			12
	10/1/2021	FRI	
10:00 AM - 11:00 AM			9
11:00 AM - Noon			10
Noon - 1:00 PM			14
1:00 PM - 2:00 PM			11
2:00 PM - 3:00 PM			8
3:00 PM - 4:00 PM			12
4:00 PM - 5:00 PM			13
5:00 PM - 6:00 PM			12
6:00 PM - 7:00 PM			0
	10/2/2021	SAT	
10:00 AM - 11:00 AM			9
11:00 AM - Noon			7
Noon - 1:00 PM			7
1:00 PM - 2:00 PM			15
2:00 PM - 3:00 PM			12
3:00 PM - 4:00 PM			9
4:00 PM - 5:00 PM			11
5:00 PM - 6:00 PM			9
6:00 PM - 7:00 PM			4
	10/3/2021	SUN	
10:00 AM - 11:00 AM			0
11:00 AM - Noon			9
Noon - 1:00 PM			11
1:00 PM - 2:00 PM			9
2:00 PM - 3:00 PM			16
3:00 PM - 4:00 PM			17
4:00 PM - 5:00 PM			0
5:00 PM - 6:00 PM			0

CHECK IN TIME	DATE		TOTAL CHECK-IN'S
10:00 AM - 11:00 AM	11/3/2021	WED	4
11:00 AM - Noon			8
Noon - 1:00 PM			5
1:00 PM - 2:00 PM			6
2:00 PM - 3:00 PM			6
3:00 PM - 4:00 PM			7
4:00 PM - 5:00 PM			8
5:00 PM - 6:00 PM			12
6:00 PM - 7:00 PM			14
10:00 AM - 11:00 AM	11/4/2022	THURS	5
11:00 AM - Noon			5
Noon - 1:00 PM			15
1:00 PM - 2:00 PM			4
2:00 PM - 3:00 PM			4
3:00 PM - 4:00 PM			7
4:00 PM - 5:00 PM			9
5:00 PM - 6:00 PM			9
6:00 PM - 7:00 PM			16
	11/5/2021	FRI	
10:00 AM - 11:00 AM			7
11:00 AM - Noon			4
Noon - 1:00 PM			9
1:00 PM - 2:00 PM			12
2:00 PM - 3:00 PM			16
3:00 PM - 4:00 PM			9
4:00 PM - 5:00 PM			16
5:00 PM - 6:00 PM			21
6:00 PM - 7:00 PM			15
	11/6/2021	SAT	
10:00 AM - 11:00 AM			7
11:00 AM - Noon			10
Noon - 1:00 PM			8
1:00 PM - 2:00 PM			7
2:00 PM - 3:00 PM			3
3:00 PM - 4:00 PM			11
4:00 PM - 5:00 PM			10
5:00 PM - 6:00 PM			14
6:00 PM - 7:00 PM			9
	11/7/2021	SUN	
10:00 AM - 11:00 AM			0
11:00 AM - Noon			8
Noon - 1:00 PM			14
1:00 PM - 2:00 PM			7
2:00 PM - 3:00 PM			6
3:00 PM - 4:00 PM			11
4:00 PM - 5:00 PM			0
5:00 PM - 6:00 PM			0

6:00 PM - 7:00 PM	0	

9/6/2021	MON
10:00 AM - 11:00 AM	0
11:00 AM - Noon	10
Noon - 1:00 PM	11
1:00 PM - 2:00 PM	17
2:00 PM - 3:00 PM	15
3:00 PM - 4:00 PM	15
4:00 PM - 5:00 PM	0
5:00 PM - 6:00 PM	0
6:00 PM - 7:00 PM	0

10/5/2021	TUES
10:00 AM - 11:00 AM	5
11:00 AM - Noon	1
Noon - 1:00 PM	3
1:00 PM - 2:00 PM	5
2:00 PM - 3:00 PM	7
3:00 PM - 4:00 PM	6
4:00 PM - 5:00 PM	6
5:00 PM - 6:00 PM	10
6:00 PM - 7:00 PM	12

6:00 PM - 7:00 PM	0

10/4/2021	MON
10:00 AM - 11:00 AM	3
11:00 AM - Noon	6
Noon - 1:00 PM	6
1:00 PM - 2:00 PM	12
2:00 PM - 3:00 PM	5
3:00 PM - 4:00 PM	5
4:00 PM - 5:00 PM	3
5:00 PM - 6:00 PM	12
6:00 PM - 7:00 PM	13

10/5/2021	TUES
10:00 AM - 11:00 AM	5
11:00 AM - Noon	1
Noon - 1:00 PM	3
1:00 PM - 2:00 PM	5
2:00 PM - 3:00 PM	7
3:00 PM - 4:00 PM	6
4:00 PM - 5:00 PM	6
5:00 PM - 6:00 PM	10
6:00 PM - 7:00 PM	12

6:00 PM - 7:00 PM	

11/1/2021	MON
10:00 AM - 11:00 AM	8
11:00 AM - Noon	6
Noon - 1:00 PM	2
1:00 PM - 2:00 PM	2
2:00 PM - 3:00 PM	9
3:00 PM - 4:00 PM	7
4:00 PM - 5:00 PM	8
5:00 PM - 6:00 PM	13
6:00 PM - 7:00 PM	12

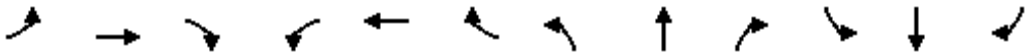
11/2/2021	TUES
10:00 AM - 11:00 AM	5
11:00 AM - Noon	3
Noon - 1:00 PM	6
1:00 PM - 2:00 PM	3
2:00 PM - 3:00 PM	5
3:00 PM - 4:00 PM	7
4:00 PM - 5:00 PM	10
5:00 PM - 6:00 PM	12
6:00 PM - 7:00 PM	14

GREEN LEAF COMPASSION CENTER CUSTOMER COUNTS, PORTSMOUTH , RI -FRIDAY May 29, 2020

TIME	ENTER	EXIT	TOTAL		No. of Cars Parked
3:30-3:45 pm	17	9	26		6
3:45-4:00 pm	17	16	33		11
4:00-4:15 pm	8	17	25		12
4:15-4:30 pm	14	15	29		7
4:30-4:45 pm	20	20	40		7
4:45-5:00 pm	21	20	41		8
5:00-5:15 pm	12	8	20		5
5:15-5:30 pm	11	15	26		8

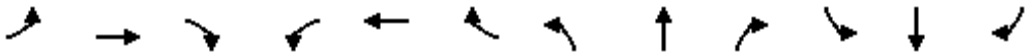
APPENDIX E

Intersection Capacity Analysis Results



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	300	72	176	288	344	105	368	193	273	592	30
Future Volume (vph)	87	300	72	176	288	344	105	368	193	273	592	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00			1.00	0.99		1.00	1.00	
Frt		0.971				0.850		0.948			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3495	0	1787	1881	1599	1805	3404	0	1805	3581	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1798	3495	0	1782	1881	1599	1797	3404	0	1802	3581	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	92	316	76	183	300	358	114	400	210	281	610	31
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	392	0	183	300	358	114	610	0	281	641	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	11.0	20.0		11.0	19.5		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.0		21.0	38.5		17.0	31.0		27.0	41.0	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.5		1.0	1.0		1.0	1.5		1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	4.5		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.4	2.7		2.4	2.7		2.4	2.7		2.4	2.7	
Recall Mode	None	Min		None	Min		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	11.3	20.0		18.2	27.4	59.0	12.5	32.2		28.0	47.8	
Actuated g/C Ratio	0.09	0.16		0.15	0.22	0.48	0.10	0.26		0.23	0.39	
v/c Ratio	0.56	0.69		0.70	0.72	0.47	0.63	0.69		0.69	0.46	
Control Delay	71.5	57.3		66.9	57.5	21.5	73.0	48.0		55.8	35.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.5	57.3		66.9	57.5	21.5	73.0	48.0		55.8	35.0	
LOS	E	E		E	E	C	E	D		E	C	
Approach Delay		60.0			44.2			52.0			41.3	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	64	143		124	199	158	80	204		184	173	
Queue Length 95th (ft)	171	282		#358	446	240	#207	#526		#546	447	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	257	999		315	609	763	257	887		409	1385	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.36	0.39		0.58	0.49	0.47	0.44	0.69		0.69	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 123.5			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	

Lane Group	Ø9
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	40.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	33.0
Pedestrian Calls (#/hr)	3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

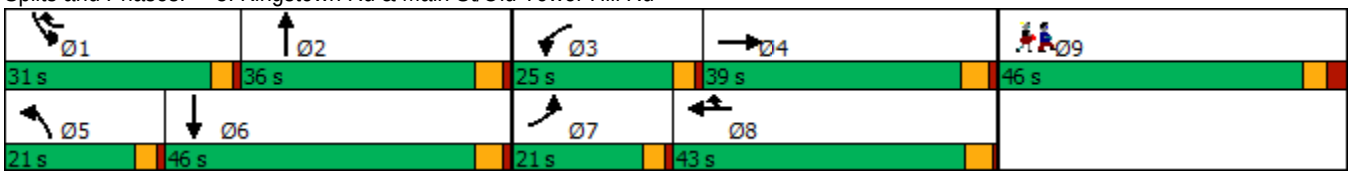
Intersection Summary

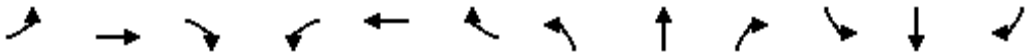
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

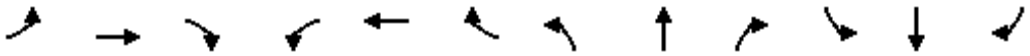
Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	311	75	182	298	356	109	381	200	283	613	31
Future Volume (vph)	90	311	75	182	298	356	109	381	200	283	613	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00			1.00	0.99		1.00	1.00	
Frt		0.971				0.850		0.948			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3495	0	1787	1881	1599	1805	3404	0	1805	3581	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1798	3495	0	1782	1881	1599	1798	3404	0	1802	3581	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	95	327	79	190	310	371	118	414	217	292	632	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	406	0	190	310	371	118	631	0	292	664	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	11.0	20.0		11.0	19.5		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.0		21.0	38.5		17.0	31.0		27.0	41.0	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.5		1.0	1.0		1.0	1.5		1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	4.5		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.4	2.7		2.4	2.7		2.4	2.7		2.4	2.7	
Recall Mode	None	Min		None	Min		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	11.4	20.6		18.9	28.6	60.0	12.8	32.1		27.9	47.2	
Actuated g/C Ratio	0.09	0.17		0.15	0.23	0.48	0.10	0.26		0.22	0.38	
v/c Ratio	0.58	0.70		0.70	0.72	0.48	0.64	0.72		0.72	0.49	
Control Delay	72.4	57.3		66.7	56.7	21.5	73.1	49.4		57.9	36.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	72.4	57.3		66.7	56.7	21.5	73.1	49.4		57.9	36.0	
LOS	E	E		E	E	C	E	D		E	D	
Approach Delay		60.2			43.9			53.1			42.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	68	151		130	208	166	84	218		197	187	
Queue Length 95th (ft)	174	287		#373	456	252	#217	#543		#565	458	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	255	988		312	602	771	255	877		405	1359	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.37	0.41		0.61	0.51	0.48	0.46	0.72		0.72	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 124.4			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 48.4		Intersection LOS: D	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	

Lane Group	Ø9
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	42.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	33.0
Pedestrian Calls (#/hr)	3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

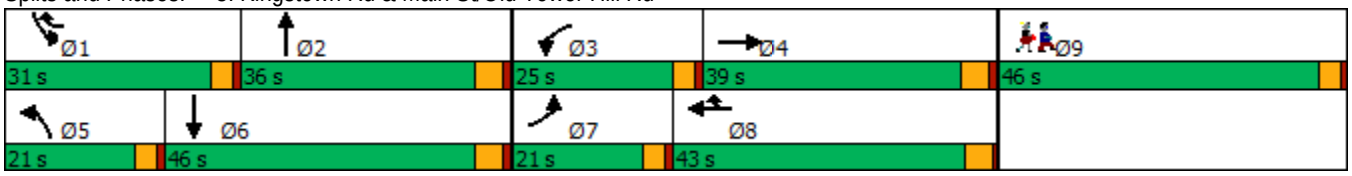
Intersection Summary

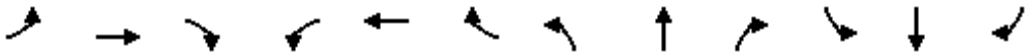
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

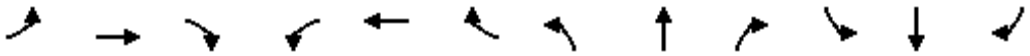
Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	318	75	186	305	363	109	381	200	290	613	31
Future Volume (vph)	90	318	75	186	305	363	109	381	200	290	613	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00			1.00	0.99		1.00	1.00	
Frt		0.971				0.850		0.948			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3495	0	1787	1881	1599	1805	3404	0	1805	3581	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1798	3495	0	1782	1881	1599	1798	3404	0	1802	3581	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.92	0.92	0.92	0.97	0.97	0.97
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	95	335	79	194	318	378	118	414	217	299	632	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	414	0	194	318	378	118	631	0	299	664	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	6.5		7.0	15.0		6.5	15.0	
Minimum Split (s)	11.0	20.0		11.0	19.5		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.0		21.0	38.5		17.0	31.0		26.5	41.5	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.5	3.0	
All-Red Time (s)	1.0	1.5		1.0	1.0		1.0	1.5		1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	4.5		4.0	5.0		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.4	2.7		2.4	2.7		2.4	2.7		2.4	2.7	
Recall Mode	None	Min		None	Min		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	11.4	20.9		19.5	29.5	61.0	12.9	32.1		27.4	47.7	
Actuated g/C Ratio	0.09	0.17		0.16	0.23	0.49	0.10	0.26		0.22	0.38	
v/c Ratio	0.58	0.71		0.70	0.72	0.49	0.64	0.73		0.76	0.49	
Control Delay	73.4	58.1		66.4	56.7	21.7	73.9	50.2		61.2	36.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	73.4	58.1		66.4	56.7	21.7	73.9	50.2		61.2	36.3	
LOS	E	E		E	E	C	E	D		E	D	
Approach Delay		61.0			44.0			53.9			44.0	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	68	155		134	215	171	85	221		206	190	
Queue Length 95th (ft)	175	298		#387	475	257	#222	#552		#598	464	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	252	979		309	596	776	252	869		393	1358	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.38	0.42		0.63	0.53	0.49	0.47	0.73		0.76	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 125.6			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 49.2		Intersection LOS: D	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	

Lane Group	Ø9
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	40.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	33.0
Pedestrian Calls (#/hr)	3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

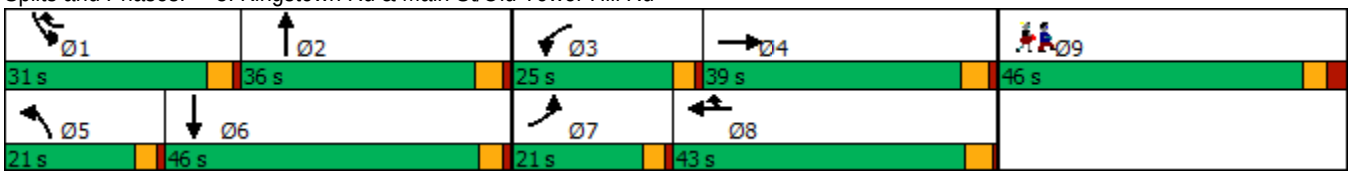
Intersection Summary

Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd



Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	806	26	11	823	30	27
Future Vol, veh/h	806	26	11	823	30	27
Conflicting Peds, #/hr	0	1	1	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	831	27	12	895	39	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	859	0	1766	847
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	920	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	786	-	92	362
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	388	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	785	-	89	361
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	376	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	57.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	138	-	-	785	-
HCM Lane V/C Ratio	0.536	-	-	0.015	-
HCM Control Delay (s)	57.8	-	-	9.7	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	2.6	-	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	835	27	11	852	31	28
Future Vol, veh/h	835	27	11	852	31	28
Conflicting Peds, #/hr	0	1	1	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	861	28	12	926	40	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	890	0	1827	877
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	951	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	766	-	84	348
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	375	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	765	-	81	347
Mov Cap-2 Maneuver	-	-	-	-	81	-
Stage 1	-	-	-	-	407	-
Stage 2	-	-	-	-	363	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	69.2
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	127	-	-	765	-
HCM Lane V/C Ratio	0.603	-	-	0.016	-
HCM Control Delay (s)	69.2	-	-	9.8	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0	-

Intersection	
Int Delay, s/veh	10.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	835	41	29	852	49	46
Future Vol, veh/h	835	41	29	852	49	46
Conflicting Peds, #/hr	0	1	1	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	861	42	32	926	64	60

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	904	0	1874	884
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	991	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	756	-	79	344
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	359	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	755	-	72	343
Mov Cap-2 Maneuver	-	-	-	-	72	-
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	327	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	169.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	117	-	-	755	-
HCM Lane V/C Ratio	1.055	-	-	0.042	-
HCM Control Delay (s)	169.5	-	-	10	0
HCM Lane LOS	F	-	-	A	A
HCM 95th %tile Q(veh)	7.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	11	10	2	0	20
Future Vol, veh/h	22	11	10	2	0	20
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	35	17	16	3	0	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	107	20
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	88	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1609	-	-	-	895	1064
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	874	1062
Mov Cap-2 Maneuver	-	-	-	-	874	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1062
HCM Lane V/C Ratio	0.022	-	-	-	0.021
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	11	10	2	0	21
Future Vol, veh/h	23	11	10	2	0	21
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	17	16	3	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	111	20
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	92	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1609	-	-	-	891	1064
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	937	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	869	1062
Mov Cap-2 Maneuver	-	-	-	-	869	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1062
HCM Lane V/C Ratio	0.023	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	11	10	2	0	21
Future Vol, veh/h	26	11	10	2	0	21
Conflicting Peds, #/hr	1	0	0	1	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	41	17	16	3	0	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	119	20
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	100	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1609	-	-	-	882	1064
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	857	1062
Mov Cap-2 Maneuver	-	-	-	-	857	-
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	SB
HCM Control Delay, s	5.1	0	8.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1062
HCM Lane V/C Ratio	0.026	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	8.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	3	22	608	74	24	811	
Future Volume (vph)	3	22	608	74	24	811	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.99		1.00		1.00		
Frt	0.882		0.985				
Flt Protected	0.994				0.950		
Satd. Flow (prot)	1644	0	1813	0	1787	1881	
Flt Permitted	0.994				0.067		
Satd. Flow (perm)	1642	0	1813	0	126	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	27		9				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Confl. Peds. (#/hr)	1	1		1	1		
Peak Hour Factor	0.81	0.81	0.93	0.93	0.91	0.91	
Heavy Vehicles (%)	0%	0%	3%	3%	1%	1%	
Adj. Flow (vph)	4	27	654	80	26	891	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	31	0	734	0	26	891	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Detector Phase	4		2		1 2	1	
Switch Phase							
Minimum Initial (s)	7.5		8.0			5.0	1.0
Minimum Split (s)	12.0		25.0			9.5	22.0
Total Split (s)	12.0		46.0			10.0	22.0
Total Split (%)	13.3%		51.1%			11.1%	24%
Maximum Green (s)	8.0		41.5			5.5	19.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			2.7	2.7
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	7.6		45.3		75.9	75.9	
Actuated g/C Ratio	0.08		0.50		0.84	0.84	
v/c Ratio	0.19		0.80		0.25	0.56	
Control Delay	19.7		28.0		14.4	8.0	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	19.7		28.0		14.4	8.0	
LOS	B		C		B	A	
Approach Delay	19.7		28.0			8.2	
Approach LOS	B		C			A	
Queue Length 50th (ft)	2		324		2	119	
Queue Length 95th (ft)	25		#589		37	#575	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	170		916		106	1587	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.18		0.80		0.25	0.56	

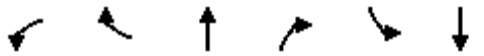
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	3	23	630	77	25	840	
Future Volume (vph)	3	23	630	77	25	840	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.99		1.00		1.00		
Frt	0.882		0.985				
Flt Protected	0.994				0.950		
Satd. Flow (prot)	1643	0	1813	0	1787	1881	
Flt Permitted	0.994				0.105		
Satd. Flow (perm)	1642	0	1813	0	197	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	28		8				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Confl. Peds. (#/hr)	1	1		1	1		
Peak Hour Factor	0.81	0.81	0.93	0.93	0.91	0.91	
Heavy Vehicles (%)	0%	0%	3%	3%	1%	1%	
Adj. Flow (vph)	4	28	677	83	27	923	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	32	0	760	0	27	923	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Detector Phase	4		2		1 2	1	
Switch Phase							
Minimum Initial (s)	7.5		8.0			5.0	1.0
Minimum Split (s)	12.0		25.0			9.5	30.0
Total Split (s)	12.0		46.0			10.0	30.0
Total Split (%)	12.2%		46.9%			10.2%	31%
Maximum Green (s)	8.0		41.5			5.5	27.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			2.7	2.7
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	7.6		55.3		83.9	83.9	
Actuated g/C Ratio	0.08		0.56		0.86	0.86	
v/c Ratio	0.21		0.74		0.16	0.57	
Control Delay	21.4		26.2		8.0	7.6	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	21.4		26.2		8.0	7.6	
LOS	C		C		A	A	
Approach Delay	21.4		26.2			7.6	
Approach LOS	C		C			A	
Queue Length 50th (ft)	2		404		2	127	
Queue Length 95th (ft)	26		#714		25	602	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	159		1026		168	1610	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.20		0.74		0.16	0.57	

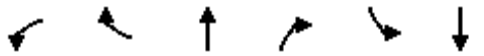
Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 98			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	3	23	630	80	27	842	
Future Volume (vph)	3	23	630	80	27	842	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.99		1.00		1.00		
Frt	0.882		0.985				
Flt Protected	0.994				0.950		
Satd. Flow (prot)	1643	0	1813	0	1787	1881	
Flt Permitted	0.994				0.100		
Satd. Flow (perm)	1642	0	1813	0	188	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	28		8				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Confl. Peds. (#/hr)	1	1		1	1		
Peak Hour Factor	0.81	0.81	0.93	0.93	0.91	0.91	
Heavy Vehicles (%)	0%	0%	3%	3%	1%	1%	
Adj. Flow (vph)	4	28	677	86	30	925	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	32	0	763	0	30	925	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Detector Phase	4		2		1 2	1	
Switch Phase							
Minimum Initial (s)	7.5		8.0			5.0	1.0
Minimum Split (s)	12.0		25.0			9.5	30.0
Total Split (s)	12.0		46.0			10.0	30.0
Total Split (%)	12.2%		46.9%			10.2%	31%
Maximum Green (s)	8.0		41.5			5.5	27.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			2.7	2.7
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	7.6		54.9		83.9	83.9	
Actuated g/C Ratio	0.08		0.56		0.86	0.86	
v/c Ratio	0.21		0.75		0.19	0.57	
Control Delay	21.4		26.7		8.9	7.6	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	21.4		26.7		8.9	7.6	
LOS	C		C		A	A	
Approach Delay	21.4		26.7			7.7	
Approach LOS	C		C			A	
Queue Length 50th (ft)	2		418		2	127	
Queue Length 95th (ft)	26		#717		30	605	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	159		1019		161	1610	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.20		0.75		0.19	0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 98			
Actuated Cycle Length: 98			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd

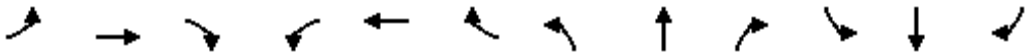
Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	36	4	4	32	46
Future Vol, veh/h	0	36	4	4	32	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	4	4	35	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	6	0	0	8	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1077	-	-	1612	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1077	-	-	1612	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

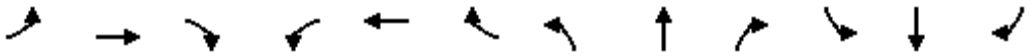
Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1077	1612	-
HCM Lane V/C Ratio	-	-	0.036	0.022	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	344	101	264	322	273	123	336	267	340	516	36
Future Volume (vph)	136	344	101	264	322	273	123	336	267	340	516	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.934			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				276		98			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Peak Hour Factor	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	136	344	101	267	325	276	123	336	267	340	516	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	445	0	267	325	276	123	603	0	340	552	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	11.0	20.0		11.0	19.5		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.0		21.0	38.5		17.0	31.0		27.0	41.0	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.5		1.0	1.0		1.0	1.5		1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	4.5		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.4	2.7		2.4	2.7		2.4	2.7		2.4	2.7	
Recall Mode	None	Min		None	Min		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	14.4	22.2		21.9	30.1	61.8	13.5	26.1		28.1	40.8	
Actuated g/C Ratio	0.12	0.18		0.18	0.24	0.50	0.11	0.21		0.23	0.33	
v/c Ratio	0.65	0.69		0.84	0.71	0.29	0.63	0.77		0.83	0.47	
Control Delay	70.2	53.1		74.3	55.2	2.7	71.7	47.0		64.8	38.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	70.2	53.1		74.3	55.2	2.7	71.7	47.0		64.8	38.0	
LOS	E	D		E	E	A	E	D		E	D	
Approach Delay		57.1			44.4			51.1			48.2	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	93	153		186	218	0	85	177		231	158	
Queue Length 95th (ft)	#275	308		#584	#493	34	#238	#421		#700	377	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	258	1013		316	610	938	256	945		411	1238	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.53	0.44		0.84	0.53	0.29	0.48	0.64		0.83	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 123.5			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 49.5		Intersection LOS: D	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			

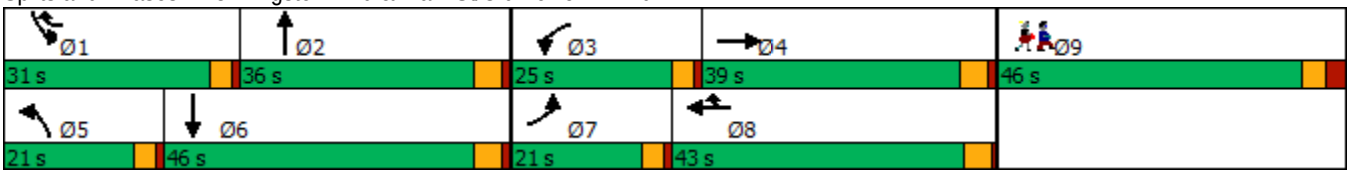
95th percentile volume exceeds capacity, queue may be longer.

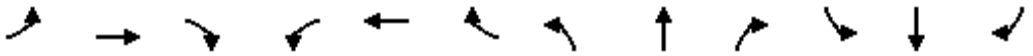
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	40.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	33.0
Pedestrian Calls (#/hr)	3
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Queue shown is maximum after two cycles.

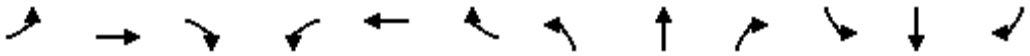
Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	356	105	273	333	283	127	348	276	352	534	37
Future Volume (vph)	141	356	105	273	333	283	127	348	276	352	534	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.934			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				286		99			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Peak Hour Factor	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	141	356	105	276	336	286	127	348	276	352	534	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	461	0	276	336	286	127	624	0	352	571	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		1.0	15.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	11.0	20.0		5.0	19.5		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.5		21.0	38.5		17.0	31.5		27.0	41.5	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.5		4.0	4.5		4.0	4.5		4.0	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.4	2.7		2.4	2.7		2.4	2.7		2.4	2.7	
Recall Mode	None	Min		None	Min		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	14.6	23.1		21.2	29.8	61.0	13.6	27.0		27.3	40.7	
Actuated g/C Ratio	0.13	0.20		0.18	0.26	0.53	0.12	0.23		0.24	0.35	
v/c Ratio	0.62	0.65		0.84	0.70	0.29	0.60	0.73		0.83	0.45	
Control Delay	62.3	45.3		70.7	48.3	2.6	62.9	40.3		61.5	31.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	62.3	45.3		70.7	48.3	2.6	62.9	40.3		61.5	31.5	
LOS	E	D		E	D	A	E	D		E	C	
Approach Delay		49.2			40.6			44.1			42.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	102	163		206	236	0	93	192		258	172	
Queue Length 95th (ft)	186	223		#408	351	43	170	284		#483	260	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	267	1061		327	631	971	264	988		424	1298	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.53	0.43		0.84	0.53	0.29	0.48	0.63		0.83	0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 115.8			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 43.8		Intersection LOS: D	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

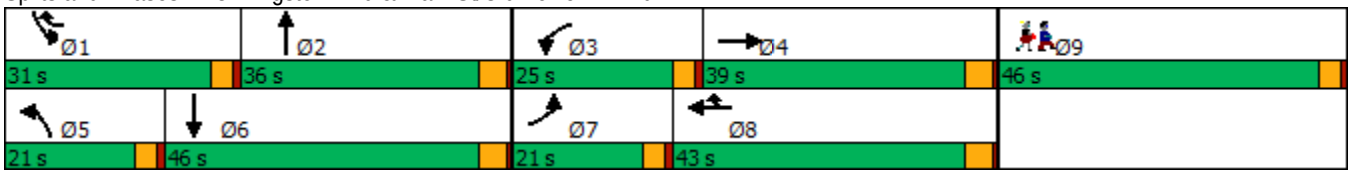
95th percentile volume exceeds capacity, queue may be longer.

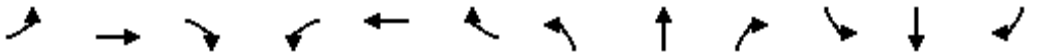
Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	42.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	0.2
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Queue shown is maximum after two cycles.

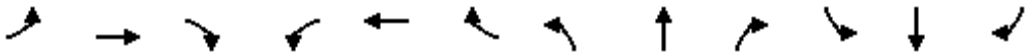
Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	361	105	277	341	289	127	348	276	356	534	37
Future Volume (vph)	141	361	105	277	341	289	127	348	276	356	534	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	115		0	0		375	100		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.934			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1805	3487	0	1787	1881	1599	1787	3338	0	1805	3574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19				292		99			4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		550			365			1258			475	
Travel Time (s)		15.0			10.0			34.3			13.0	
Peak Hour Factor	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Adj. Flow (vph)	141	361	105	280	344	292	127	348	276	356	534	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	466	0	280	344	292	127	624	0	356	571	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA	custom	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	8 1	5	2		1	6	

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						6						
Detector Phase	7	4		3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0		7.0	15.0		7.0	15.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	39.0		25.0	43.0		21.0	36.0		31.0	46.0	
Total Split (%)	11.9%	22.0%		14.1%	24.3%		11.9%	20.3%		17.5%	26.0%	
Maximum Green (s)	17.0	34.0		21.0	38.0		17.0	31.0		27.0	41.0	
Yellow Time (s)	3.0	3.5		3.0	3.5		3.0	3.5		3.0	3.5	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.0	1.5		1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.2	2.2		2.2	3.0		2.2	3.0		2.2	3.0	
Recall Mode	None	Min		None	None		None	Min		None	Min	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	14.5	24.1		21.2	30.8	94.6	13.5	27.5		27.2	41.2	
Actuated g/C Ratio	0.12	0.20		0.18	0.26	0.80	0.11	0.23		0.23	0.35	
v/c Ratio	0.64	0.64		0.88	0.70	0.22	0.62	0.73		0.86	0.46	
Control Delay	64.7	45.4		76.2	48.9	0.7	65.5	41.3		65.7	32.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	64.7	45.4		76.2	48.9	0.7	65.5	41.3		65.7	32.5	
LOS	E	D		E	D	A	E	D		E	C	
Approach Delay		49.9			41.9			45.4			45.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	105	168		216	247	0	96	197		270	177	
Queue Length 95th (ft)	187	226		#421	361	15	171	288		#496	265	
Internal Link Dist (ft)		470			285			1178			395	
Turn Bay Length (ft)	115					375	100			175		
Base Capacity (vph)	262	1025		320	610	1334	259	956		416	1268	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.54	0.45		0.88	0.56	0.22	0.49	0.65		0.86	0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 177			
Actuated Cycle Length: 118.2			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 45.2		Intersection LOS: D	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

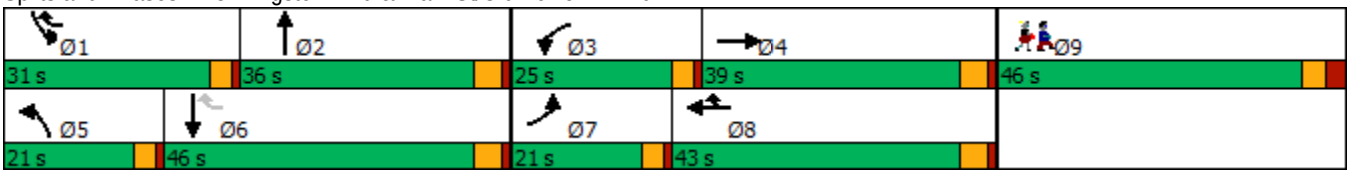
95th percentile volume exceeds capacity, queue may be longer.

Lane Group	Ø9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	46.0
Total Split (s)	46.0
Total Split (%)	26%
Maximum Green (s)	40.0
Yellow Time (s)	3.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	2.2
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	20.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Queue shown is maximum after two cycles.

Splits and Phases: 3: Kingstown Rd & Main St/Old Tower Hill Rd



Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	895	46	18	849	31	32
Future Vol, veh/h	895	46	18	849	31	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	923	47	20	923	40	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	970	0	1910	947
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	963	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	715	-	75	317
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	370	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	715	-	71	317
Mov Cap-2 Maneuver	-	-	-	-	71	-
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	87.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	117	-	-	715	-
HCM Lane V/C Ratio	0.699	-	-	0.027	-
HCM Control Delay (s)	87.5	-	-	10.2	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	3.8	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	927	48	19	879	32	33
Future Vol, veh/h	927	48	19	879	32	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	956	49	21	955	42	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1005	0	1978	981
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	997	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	693	-	68	303
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	357	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	693	-	64	303
Mov Cap-2 Maneuver	-	-	-	-	64	-
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	334	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	110.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	107	-	-	693	-
HCM Lane V/C Ratio	0.789	-	-	0.03	-
HCM Control Delay (s)	110.3	-	-	10.4	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	4.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	18.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	927	57	35	879	50	51
Future Vol, veh/h	927	57	35	879	50	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	77	77
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	956	59	38	955	65	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1015	0	2017	986
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	1031	-
Critical Hdwy	-	-	4.11	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.209	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	687	-	~ 64	301
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	344	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	687	-	~ 56	301
Mov Cap-2 Maneuver	-	-	-	-	~ 56	-
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	303	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	$ 304.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	95	-	-	687	-
HCM Lane V/C Ratio	1.381	-	-	0.055	-
HCM Control Delay (s)	$ 304.3	-	-	10.5	0
HCM Lane LOS	F	-	-	B	A
HCM 95th %tile Q(veh)	9.6	-	-	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	17	14	4	2	36
Future Vol, veh/h	13	17	14	4	2	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	27	22	6	2	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	94	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	69	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1599	-	-	-	911	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	899	1057
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	1047
HCM Lane V/C Ratio	0.013	-	-	-	0.04
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	18	14	4	2	37
Future Vol, veh/h	13	18	14	4	2	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	29	22	6	2	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	96	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1599	-	-	-	908	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	957	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	896	1057
Mov Cap-2 Maneuver	-	-	-	-	896	-
Stage 1	-	-	-	-	990	-
Stage 2	-	-	-	-	957	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	1047
HCM Lane V/C Ratio	0.013	-	-	-	0.041
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	18	14	4	2	37
Future Vol, veh/h	24	18	14	4	2	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	63	63	63	63	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	38	29	22	6	2	41

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	130	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1599	-	-	-	869	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	924	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	848	1057
Mov Cap-2 Maneuver	-	-	-	-	848	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	8.6
HCM LOS			A

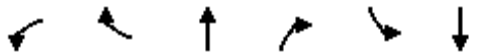
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	1044
HCM Lane V/C Ratio	0.024	-	-	-	0.042
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	83	35	682	84	18	711	
Future Volume (vph)	83	35	682	84	18	711	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.960		0.985				
Flt Protected	0.966				0.950		
Satd. Flow (prot)	1762	0	1872	0	1787	1881	
Flt Permitted	0.966				0.106		
Satd. Flow (perm)	1762	0	1872	0	199	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	18		9				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Peak Hour Factor	0.99	0.99	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Adj. Flow (vph)	84	35	682	84	18	711	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	119	0	766	0	18	711	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	
Detector Phase	4		2		1 2	1	
Switch Phase							

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Minimum Initial (s)	5.0		5.0			5.0	5.0
Minimum Split (s)	12.0		22.5			9.5	22.0
Total Split (s)	12.0		46.0			10.0	22.0
Total Split (%)	13.3%		51.1%			11.1%	24%
Maximum Green (s)	8.0		41.5			5.5	19.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			2.7	2.0
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							2.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	10.5		48.9		68.6	68.6	
Actuated g/C Ratio	0.12		0.54		0.76	0.76	
v/c Ratio	0.54		0.75		0.12	0.50	
Control Delay	40.1		24.0		7.4	7.0	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	40.1		24.0		7.4	7.0	
LOS	D		C		A	A	
Approach Delay	40.1		24.0			7.0	
Approach LOS	D		C			A	
Queue Length 50th (ft)	55		324		2	104	
Queue Length 95th (ft)	104		#615		16	340	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	228		1021		151	1433	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.52		0.75		0.12	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	86	36	706	87	19	736	
Future Volume (vph)	86	36	706	87	19	736	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.960		0.985				
Flt Protected	0.966				0.950		
Satd. Flow (prot)	1762	0	1872	0	1787	1881	
Flt Permitted	0.966				0.100		
Satd. Flow (perm)	1762	0	1872	0	188	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	18		8				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Peak Hour Factor	0.99	0.99	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Adj. Flow (vph)	87	36	706	87	19	736	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	123	0	793	0	19	736	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	
Detector Phase	4		2		1 2	1	
Switch Phase							

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Minimum Initial (s)	5.0		5.0			5.0	5.0
Minimum Split (s)	22.5		22.5			9.5	22.0
Total Split (s)	22.5		46.0			10.0	22.0
Total Split (%)	22.4%		45.8%			10.0%	22%
Maximum Green (s)	18.5		41.5			5.5	19.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			3.0	3.0
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	11.1		55.6		76.5	76.5	
Actuated g/C Ratio	0.11		0.55		0.76	0.76	
v/c Ratio	0.59		0.76		0.13	0.51	
Control Delay	46.9		26.4		10.3	9.0	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	46.9		26.4		10.3	9.0	
LOS	D		C		B	A	
Approach Delay	46.9		26.4			9.0	
Approach LOS	D		C			A	
Queue Length 50th (ft)	65		360		2	114	
Queue Length 95th (ft)	118		#772		22	487	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	339		1038		143	1432	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.36		0.76		0.13	0.51	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100.5			
Actuated Cycle Length: 100.5			
Offset: 0 (0%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 20.0		Intersection LOS: C	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	86	36	706	98	21	740	
Future Volume (vph)	86	36	706	98	21	740	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.960		0.984				
Flt Protected	0.966				0.950		
Satd. Flow (prot)	1762	0	1870	0	1787	1881	
Flt Permitted	0.966				0.090		
Satd. Flow (perm)	1762	0	1870	0	169	1881	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	18		10				
Link Speed (mph)	30		30			30	
Link Distance (ft)	440		511			1258	
Travel Time (s)	10.0		11.6			28.6	
Peak Hour Factor	0.99	0.99	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	1%	1%	
Adj. Flow (vph)	87	36	706	98	21	740	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	123	0	804	0	21	740	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	12		24			24	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15	9		9	15		
Number of Detectors	1		2		1	2	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	20		100		20	100	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	20		6		20	6	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Detector 2 Position(ft)			94			94	
Detector 2 Size(ft)			6			6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot		NA		custom	NA	
Protected Phases	4		2			1	3
Permitted Phases					1 2	1 2	
Detector Phase	4		2		1 2	1	
Switch Phase							

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Minimum Initial (s)	8.0		8.0			5.0	1.0
Minimum Split (s)	12.0		22.5			9.5	22.0
Total Split (s)	15.0		48.0			10.0	22.0
Total Split (%)	15.8%		50.5%			10.5%	23%
Maximum Green (s)	11.0		43.5			5.5	19.0
Yellow Time (s)	3.0		3.5			3.5	2.0
All-Red Time (s)	1.0		1.0			1.0	1.0
Lost Time Adjust (s)	0.0		0.0			0.0	
Total Lost Time (s)	4.0		4.5			4.5	
Lead/Lag	Lag		Lag			Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes	Yes
Vehicle Extension (s)	2.7		2.7			2.7	2.7
Recall Mode	None		C-Min			None	None
Walk Time (s)							7.0
Flash Dont Walk (s)							12.0
Pedestrian Calls (#/hr)							3
Act Effct Green (s)	10.2		51.9		71.9	71.9	
Actuated g/C Ratio	0.11		0.55		0.76	0.76	
v/c Ratio	0.60		0.78		0.17	0.52	
Control Delay	46.8		26.2		10.6	8.4	
Queue Delay	0.0		0.0		0.0	0.0	
Total Delay	46.8		26.2		10.6	8.4	
LOS	D		C		B	A	
Approach Delay	46.8		26.2			8.4	
Approach LOS	D		C			A	
Queue Length 50th (ft)	61		360		2	112	
Queue Length 95th (ft)	119		#697		23	439	
Internal Link Dist (ft)	360		431			1178	
Turn Bay Length (ft)							
Base Capacity (vph)	225		1025		127	1423	
Starvation Cap Reductn	0		0		0	0	
Spillback Cap Reductn	0		0		0	0	
Storage Cap Reductn	0		0		0	0	
Reduced v/c Ratio	0.55		0.78		0.17	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 15.2 (16%), Referenced to phase 2:NBSB, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 19.7		Intersection LOS: B	
Intersection Capacity Utilization 57.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: Kingstown Rd & Macarthur Blvd

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	36	2	11	25	65
Future Vol, veh/h	0	36	2	11	25	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	2	12	27	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	8	0	0	14	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1074	-	-	1604	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1074	-	-	1604	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	2
HCM LOS	A		

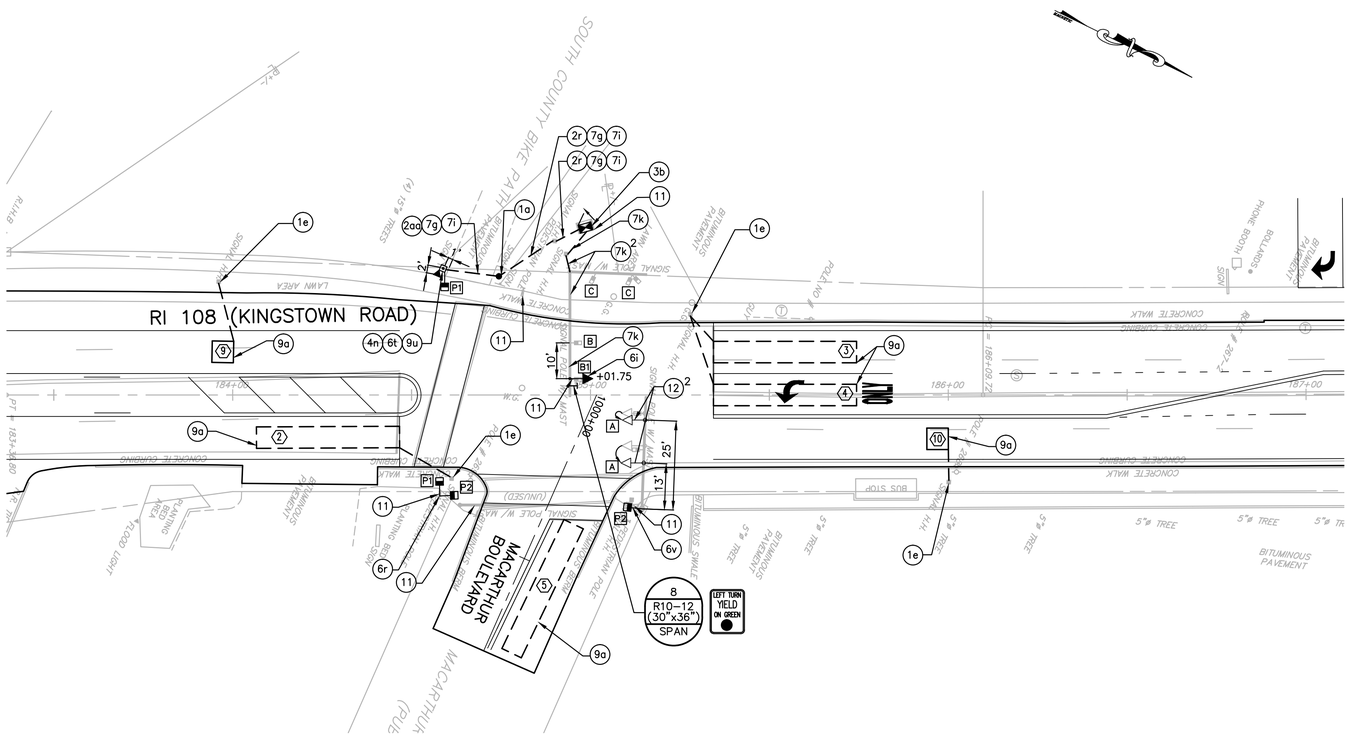
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1074	1604	-
HCM Lane V/C Ratio	-	-	0.036	0.017	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

APPENDIX F

Traffic Signal Plans

FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
1	R.I.	STPG–HSIP(003)	2013	38	69

SIGNAL NO. #674



TRAFFIC SIGNAL EQUIPMENT LEGEND

NO.	LEGEND	DESCRIPTION
1a	●	PRECAST TYPE "A" HANDHOLE STD. 18.2.0
1e		BREAK INTO EXISTING HANDHOLE
2r	-----	3 INCH RIGID STEEL CONDUIT – UNDERGROUND
2aa	-----	3 INCH RIGID STEEL CONDUIT – UNDER EXISTING PAVEMENT
3b		8 PHASE ACT. CONTROLLER, W/ 8 PHASE ASSEMBLY, CABINET STD. 19.1.0 W/ CABINET ON EXISTING FOUNDATION
4n		TRAFFIC SIGNAL STANDARD, 8 FOOT, ALUMINUM PEDESTAL POLE AND FOUNDATION STD 19.4.0
6i	→	1 WAY 4 SECTION MAST ARM MOUNTED SIGNAL HEAD 12 INCH (W/ DUAL IND. DUAL ROW L.E.D. ARROW)
6t		1 WAY PEDESTAL MOUNTED COUNTDOWN L.E.D. PEDESTRIAN SIGNAL HEAD, 12 INCH
6r		2 WAY PEDESTAL MOUNTED COUNTDOWN L.E.D. PEDESTRIAN SIGNAL HEAD, 12 INCH
6v		1 WAY BRACKET MOUNTED COUNTDOWN L.E.D. PEDESTRIAN SIGNAL HEAD, 12 INCH
7g		14 AWG 3 CONDUCTOR CABLE
7i		14 AWG 5 CONDUCTOR CABLE
7k		14 AWG 7 CONDUCTOR CABLE
9a	⊏⊐⊐⊐	TRAFFIC DETECTOR – LOOP STANDARD 19.6.0
9u	▶	HEAVY–DUTY PEDESTRIAN DETECTOR – PUSH BUTTON WITH SIGN
11		REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT
12		REMOVE AND RELOCATE EXISTING SIGNAL HEAD
	■	EXISTING HANDHOLE
	◇	EXISTING UTILITY POLE
		EXISTING PEDESTRIAN SIGNAL HEAD
	→	EXISTING 1 WAY, 3 SECTION MAST ARM MOUNTED SIGNAL HEAD 12 INCH
	▷	EXISTING PEDESTRIAN PUSH BUTTON
	⊡	EXISTING PEDESTAL
	⊠	EXISTING CONTROLLER

GENERAL NOTES:

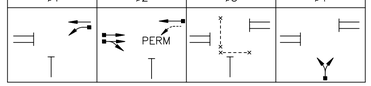
1. REPLACE TRAFFIC SIGNAL HEAD [B] WITH [B1] AND RUN 14 AWG 7 CONDUCTOR CABLE TO THIS HEAD UTILIZING EXISTING CONDUITS.
2. REMOVE & RELOCATED TRAFFIC SIGNAL HEADS [A] AS SHOWN IN SIGNAL PLAN. PROVIDE NEW NIPPLES, UTILIZE EXISTING 5 CONDUCTOR CABLES.
3. CUT NEW LOOPS IN OVERLAY, SPLICE IN EXISTING HANDHOLES.
4. SEE PLAN "SIGNING & STRIPING 02" FOR PAVEMENT MARKING DETAILS.
5. BACK PLATES ARE REQUIRED ON THE NEW TRAFFIC SIGNAL HEAD [B1] AND SHALL BE INCLUDED IN THE PRICE OF THE SIGNAL HEAD.
6. CABINET DOOR TO OPEN FACING AWAY FROM THE ROADWAY.
7. NEW CONTROLLER TO BE INSTALLED ON EXISTING FOUNDATION (54"x32"). CONTROLLER TO BE EQUIPPED WITH INTERNAL GPS TIME SYNCHRONIZATION (GPS ANTENNA & ANCILLARY EQUIPMENT) AND METER SOCKET WITH MANUAL BY–PASS.

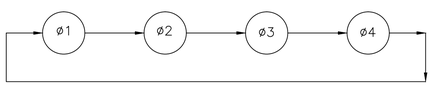
SEQUENCE AND TIMING DIAGRAM

APPROACH	DIRECTION	HOUSING	ø1			ø2			ø3			ø4			FLASHING OPERATION
MINIMUM INTERVAL			5			8						8			
VEHICLE EXTENSION			2.7			2.7						2.7			
MAXIMUM 1			10			35						15			
MAXIMUM 2															
YELLOW CLEARANCE				3.5			3.5						3		
RED CLEARANCE					1			1						1	
PED. WALK/CLEARANCE									7	12	3				
KINGSTOWN ROAD	SB–LT	B1	G/FG	Y*/FY	R*	G	Y	R	R	R	R	R	R	R	FY
KINGSTOWN ROAD	SB	B	G	Y*	R*	G	Y	R	R	R	R	R	R	R	FY
KINGSTOWN ROAD	NB	A	R	R	R	G	Y	R	R	R	R	R	R	R	FY
MacARTHUR BOULEVARD	WB	C	R	R	R	R	R	R	R	R	R	G	Y	R	FR
PED. CROSSING KINGSTOWN ROAD	E–W	P1	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DARK
PED. CROSSING MacARHUR BOULEVARD	N–S	P2	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DARK
DETECTOR			NON–LOCK			NON–LOCK			NON–LOCK			NON–LOCK			
RECALL			OFF			MINIMUM–ON			OFF			OFF			

SEQUENCE AND TIMING NOTES:
1. MAXIMUM 1 = FREE OPERATION
2. MAXIMUM 2 = NOT USED
3. PED W/FDW UPON PUSH BUTTON ACTUATION ONLY

* TO REMAIN "G" IF PHASE 2 IS NEXT.





PHASE SEQUENCE DIAGRAM

SCHEDULE OF OPERATIONS

MACARTHUR BLVD. & CHARLES ST.

	MONDAY THRU FRIDAY	SATURDAY & SUNDAY
PLAN 1 80" CYCLE	0600–1000	–
PLAN 2 95" CYCLE	1000–1500 1900–0000	0900–1700
PLAN 3 90" CYCLE	1500–1900	–
FREE OPERATION	0000–0600	1700–0900

COORDINATION DATA

(ALL ENTRIES IN SECONDS)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	80	95	90
OFFSET	0	0	0
PHASE ø1	10	10	10
PHASE ø2	36	48	46
PHASE ø3	22	22	22
PHASE ø4	12	15	12
COORDINATED PHASE	ø2	ø2	ø2

SIGNAL HEAD DATA

A,B,C	B1	P1,P2
R	R	
Y	Y	
G	G	
	FY/G	

NOTES:
1. ONLY SIGNAL HEAD [B1] IS PROPOSED, ALL OTHER TRAFFIC SIGNAL HEADS ARE EXISTING.
2. RED, YELLOW AND GREEN SIGNAL DISPLAYS FOR SIGNAL HEAD [B1] SHALL BE EQUIPPED WITH LED MODULES.
3. ARROW DISPLAYS FOR SIGNAL HEAD [B1] SHALL BE MADE UP OF TWO ROWS OF LED MODULES.
4. ALL PEDESTRIAN SIGNALS ARE BEING REPLACED WITH COUNTDOWN SIGNALS.

DETECTOR DATA

DETECTOR NO.	SIZE	RELAY NUMBER	SLOT	DELAY (SEC)	CALL PHASE	REMARKS
②	6'X40'	1	2	3	2	PROPOSED
③	6'X40'	1	2	3	2	PROPOSED
④	6'X40'	1	2	3	1	PROPOSED
⑤	6'X40'	2	4	5	4	PROPOSED
⑨	6'X6'	3	6	–	SYSTEM	PROPOSED
⑩	6'X6'	3	6	–	SYSTEM	PROPOSED

NOTES:
1. DETECTORS 2 AND 3 TO BE "CALL NON–ACTUATED" DURING COORDINATED OPERATION.
2. SYSTEM DETECTORS (DETECTOR NOS. 9 AND 10) SHALL BE INITIALLY PROGRAMMED IN THE CONTROLLER TO RECORD VOLUME DATA.

REMOVE AND SALVAGE TRAFFIC SIGNAL EQUIPMENT

QUANTITY	ITEM DESCRIPTION
1	TRAFFIC SIGNAL HEAD W/ ASSEMBLY
1	CONTROLLER AND CABINET
1	8 FOOT PEDESTAL POLE AND FOUNDATION WITH PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSH BUTTON
1	BRACKET MOUNTED PEDESTRIAN SIGNAL HEAD
1	2 WAY PEDESTAL MOUNTED PEDESTRIAN SIGNAL HEAD

REMOVE AND DISPOSE EQUIPMENT

QUANTITY	ITEM DESCRIPTION
13	LOOP DETECTORS

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

HIGHWAY SAFETY IMPROVEMENT PROGRAM

SOUTH KINGSTOWN, RHODE ISLAND

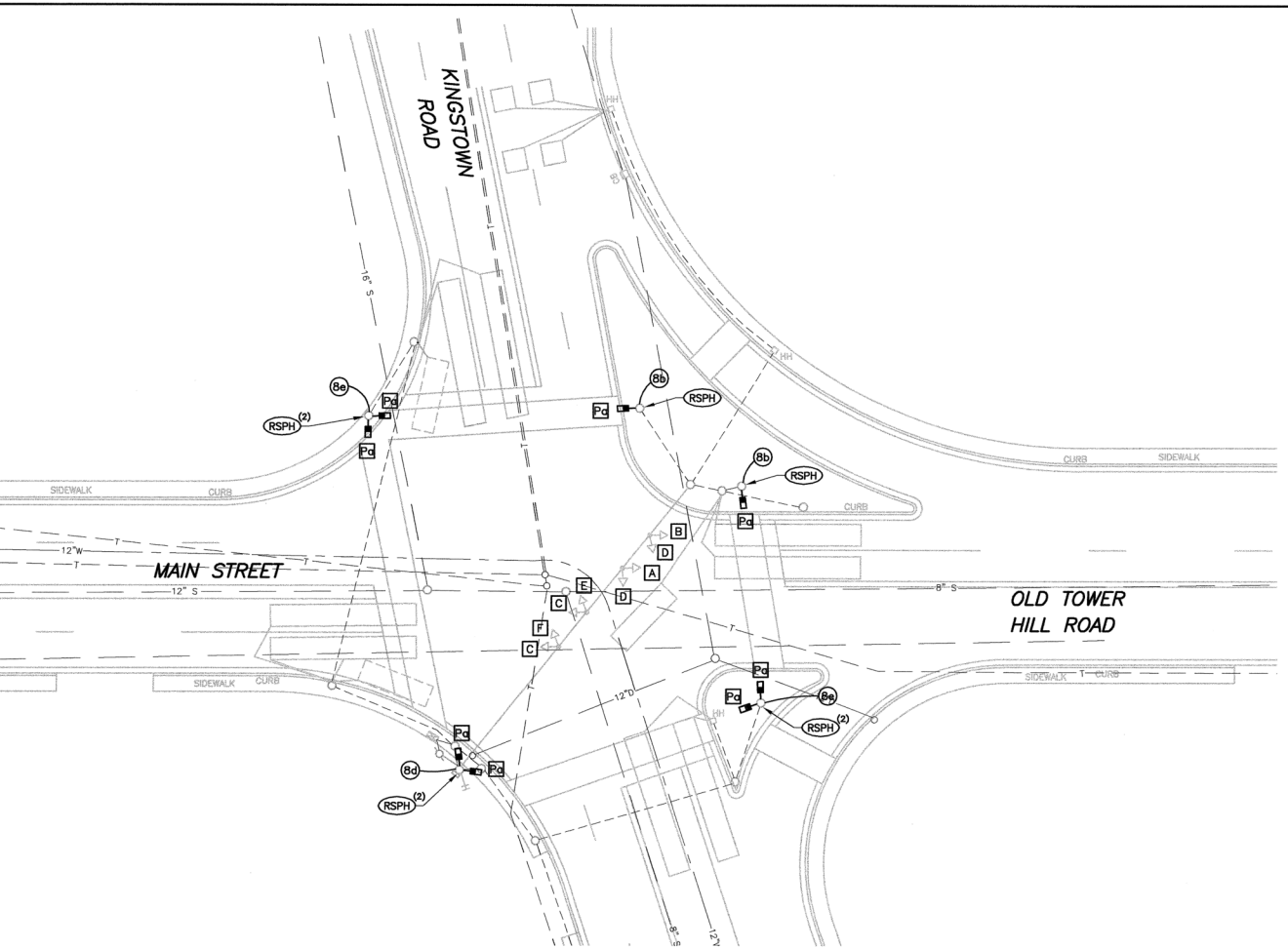
TRAFFIC SIGNAL PLAN 01

RI 108 (KINGSTOWN RD.) AT MACARTHUR BLVD.

CHECKED BY VAA DATE JANUARY 2014 SCALE 1" = 20'

GM2 Associates, Inc.
Consulting Engineers
115 Glastonbury Boulevard
Glastonbury, CT 06033

FED. ROAD DIV. NO.	
1	

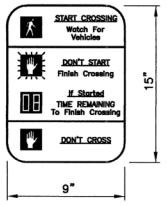


SIGNAL HEADS

Pa

12" LENSES PEDESTRIAN SIGNAL (FILLED ICONS)

NOTE:
ALL INDICATIONS ARE TO BE LED.



R10–3e

TRAFFIC SIGNAL M

1a	■	HANDHOLE, TYPE
2a		2" RIGID STEEL CO
2b	———	2" RIGID STEEL CO
2c	———	2" RIGID STEEL CO
3a		2" PVC CONDUIT (
3b		3" PVC CONDUIT (
3c		3" PVC CONDUIT (
5a	•	8' ALUMINUM PEDE
6a		DUAL MAST ARM (MAST ARM POLE
6b		25' MAST ARM GA TRAFFIC POST AN
6c		30' MAST ARM GA AND FOUNDATION,
6d		45' MAST ARM GA AND FOUNDATION,
6e		25' ORNAMENTAL
7a		CABLE, SINGLE CO 600V INSULATION
7b		LOOP DETECTOR S NO. 14 A.W.G.
7c		CABLE, 5 CONDUC
7d		6–PAIR, NO. 19 A INSULATION (IMSA
8a	←	SIGNAL HEAD, 1 W
8b		PEDESTRIAN SIGNA PEDESTAL MOUNTE
8c		PEDESTRIAN SIGNA BRACKET MOUNTE
8d		PEDESTRIAN SIGNA BRACKET MOUNTE
8e		PEDESTRIAN SIGNA PEDESTAL MOUNTE
9a	▭	TRAFFIC DETECTOR
9b	+	DETECTOR, PEDEST
9c		LOOP DETECTOR R
9d		LOOP DETECTOR R
10a	⊠	CONTROLLER, 8–PH MOUNTED INCLUDIN
10b		METER SOCKET WI
10c		REPROGRAM EXISTI
10d		TRAFFIC SIGNAL S
10e		MODIFY ON–STREE
10f		PHONE DROP

NOTES:

1. THE EXISTING AND NEW PEDESTRIAN THE SAME WIRING. NO NEW CABLE LOCATION.

SIGNAL PHASING AND TIMING CHART

	Ø1					Ø2					Ø3					Ø4					Ø5			
	INIT.	VEH. EXT.	MAX	CL1	CL2	INIT.	VEH. EXT.	MAX	CL1	CL2	INIT.	VEH. EXT.	MAX	CL1	CL2	INIT.	VEH. EXT.	MAX	CL1	CL2	MAX	CL1	CL2	
	4	2.2	12	2	1	4	2.5	25	4	1	4	2.2	10	3	1	4	2.2	31	4	1	27	3	1	FLASH
A	G/~~G~~			G/~~G~~ ①	G ②	G			Y	R	R			R		R			R	R	R	R	R	Y
B	G			G ③	G ②	G			Y	R	R			R	R	R			R	R	R	R	R	Y
C	R			R	R	G			Y	R	R			R	R	R			R	R	R	R	R	Y
D	R			R	R	R			R	R	R			R	R	G			Y	R	R	R	R	R
E	R			R	R	R			R	R	G/~~G~~			G/~~G~~	G	G			Y	R	R	R	R	R
F	R			R	R	R			R	R	G			G	G	G			Y	R	R	R	R	R
																					MIN. GRN WALK PED CL 7	20	CL1 3	CL2 1	
Pa	DW					DW					DW					DW					W	FDW	DW	DW	OFF
RY	OFF/NON–LOCK					OFF/NON–LOCK					OFF/NON–LOCK					ON/NON–LOCK					OFF/NON–LOCK				

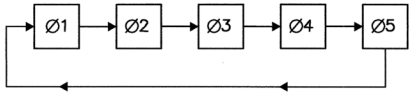
NOTES:

① TO BE Y/~~A~~ IF PHASE 3, 4, OR 5 IS NEXT.

② TO BE R IF PHASE 3, 4, OR 5 IS NEXT.

③ TO BE Y IF PHASE 3, 4, OR 5 IS NEXT.

SEQUENCE DIAGRAM



REVISIONS		
NO.	DATE	BY

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